

AD/A-002 862

A STRUCTURAL WEIGHT ESTIMATION PROGRAM
(SWEEP) FOR AIRCRAFT. VOLUME VI - WING
AND EMPENNAGE MODULE. APPENDIX E:
PROGRAM LISTINGS, OVERLAYS (8, 0), (14, 0),
(15, 0), (16, 0), AND (17, 0)

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Three computer programs were written with the objective of predicting the structural weight of aircraft through analytical methods. The first program, the structural weight estimation program (SWEEP), is a completely integrated program including routines for airloads, loads spectra, skin temperatures, material properties, flutter stiffness requirements, fatigue life, structural sizing, and for weight estimation of each of the major		

20. ABSTRACT (CONTINUED)

aircraft structural components. The program produces first-order weight estimates and indicates trends when parameters are varied. Fighters, bombers, and cargo aircraft can be analyzed by the program. The program operates within 100,000 octal units on the Control Data Corporation 6600 computer. Two stand-alone programs operating within 100,000 octal units were also developed to provide optional data sources for SWEEP. These include (1) the flexible airloads program to assess the effects of flexibility on lifting surface airloads, and (2) the flutter optimization program to optimize the stiffness distribution required for lifting surface flutter prevention.

The final report is composed of 11 volumes. This volume (volume VI) contains the methods and program description for the wing and empennage module of SWEEP. Program listings and flow charts are included in the appendix to this volume.

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James H. Hall
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 Deputy for Development Planning

TABLE OF CONTENTS

Section	Page
INTRODUCTION TO VOLUME VI	27
<u>BOOK 1 - TECHNICAL DISCUSSION, SECTIONS I AND II</u>	29
I MODULE DESCRIPTION	31
General Description	31
Analysis Description	40
Analysis Options	49
Surface Types	49
General Data Processing Option	49
Torque-Box Design Option	52
Design Data Generation Option for the Flutter Optimization and Flexible Loads Analysis Programs	52
Design Features	54
Surface Geometry	54
Nonlinear Planforms	54
Cross-Sections	54
Torque-Box Description	56
Surface Configuration	57
Variable-Sweep Wing Designs	57
T-Tail Empennage Designs	57
Leading and Trailing Edge Structures	58
Miscellaneous Structure and Deadweight Mass Items	59
Secondary Structure	59
Tip Structure	59
Internal Fuel	59
External Concentrated Mass Items	60
Miscellaneous Internal Contents	60
Structural Design Data	61
Deadweight	61
Torsional Flutter Requirements	61
Design Loads	62

Section	Page
Torque-box Design Synthesis	63
Construction Concepts	63
Torque-box Analysis Constants	64
Ultimate Allowable Stresses	64
Weight Calibration Factors	65
Torque-box Structure	65
Pivot Structure	65
Center-Section Structure	65
Leading Edge Structure	65
Trailing Edge Structure	66
Tip Structure	66
Secondary Structure	66
Module Structure	67
Module Execution	67
Execution of Metallic Torque-box Design Overlays	67
Module Storage Arrangement	81
Blank Common	81
Module/Overlay Data Requirements	81
Blank Common Initialization	81
Input Data	83
Output Data	83
Mass Storage File Records	83
Module Core Maps	97
Labeled Common Arrays	97
Blank Common Arrays	97

TABLE OF CONTENTS

Section	Page
II METHODOLOGY	257
Introduction	257
Lifting Surface Geometry	263
Planform Geometry	263
Cross-Sectional Geometry	268
Lifting Surface Design Data	274
Leading and Trailing Edge Structures	274
Nonstructural Wing Deadweight	280
Flutter Stiffness Requirements	284
Design Airloads	291
Material Properties	293
Initial Inertia Loads and Couple Arm Estimation	294
Structural Synthesis	297
Cover Design Loads	297
Torque-Box Synthesis	299
Metallic Torque-Box Analysis	300
Cover Synthesis	307
Intermediate Support Structure	315
Bending and Torsional Stiffness	321
Advanced Composite Torque-Box Analysis	322
General Behavior of Composite Laminates	322
Governing Relationships	324
Temperature Dependence of Properties	330
Stability	331
Stringer Columns	337
Full-Depth Honeycomb Sandwich	340

Section	Page
General Procedures	343
Multispar Analysis	349
Multirib Analysis	351
Bending and Torsional Stiffness	356
Pivot Structure Synthesis	357
Weight Analysis	358
Torque-Box Weight Analysis	358
Leading and Trailing Edge Weight Analysis	361
Estimation Equation Form	362
Fixed Leading Edge Structure	365
Leading Edge Control Devices	366
Fixed Trailing Edge Structure	368
Trailing Edge Control Devices	369
Basic Module Output	373
Design Data Generation Option	378
General Description	378
Program Description	378
Mass Properties and Design Data	
Processing Requirements	380
Structural Synthesis/Weight Analysis	
Reference System	383
Data for Flexible Loads Analysis Program	385
Data for Flutter Optimization Program	397
<u>BOOK 2 - TECHNICAL DISCUSSION, SECTIONS III AND IV</u>	415
III INPUT DATA PROCESSING AND GEOMETRY ANALYSIS	417
General Description	417
Overlay (8,0) Input Data	417
Overlay (8,0) Output Data	422
Overlay Core Maps	424
Variable Data Subarrays DLE, DTE, and DTC	434
TXV Array	454
YC and YTC Arrays, Overlay (8,0)	486
Output Data Arrays TD and TS	492

Section		Page
	Subroutine Descriptions	503
	Program ØLAY8	503
	Subroutine CCNTL	503
	Subroutine CASE	510
	Subroutine GEØW	513
	Subroutine GEØMC	521
	Subroutine VSGEØM	524
	Subroutine TBWDC	527
	Subroutine ABØXC	534
	Subroutine DMAX	537
	Subroutine CAERØ	540
	Subroutine SWPXYP	542
	Subroutine PRTG	545
	Subroutine GCØP	550
IV	SUBROUTINE REFERENCE TABLES FOR OVERLAYS (9,0), (10,0), (14,0), (15,0), (16,0), (17,0), and (18,0)	552
	<u>BOOK 3 - TECHNICAL DISCUSSION, SECTION V</u>	767
V	CORE MAPS FOR OVERLAYS (9,0), (10,0), (14,0), (15,0), (16,0), (17,0), and (18,0)	769
	REFERENCES	1097

Section	Page
APPENDIX A - GENERAL INFORMATION FOR MODULE FLOW CHARTS AND LISTINGS	1123
General Description	1123
Autoflow Description	1123
Cross Reference List	1128
Table of Diagnostics	1128
Flow Charts	1129
APPENDIX B - PROGRAM FLOW CHARTS, OVERLAYS (8,0), (14,0), (15,0), (16,0) AND (17,0)	1132
Overlay (8,0) - Input Data Processing and Geometry Analysis	1138
Program Table of Contents and References, and Table of Diagnostics	1139
Program Flow Charts	1153
Program ØLAY8	1154
Subroutine CCNTL	1157
Subroutine CASE	1166
Subroutine GEØMW	1170
Subroutine GEØMC	1180
Subroutine VSGEØM	1187
Subroutine TBWDC	1193
Subroutine ABØXC	1199
Subroutine DMAX	1203
Subroutine CAERØ	1208
Subroutine SWPXYP	1211
Subroutine PRTG	1214
Subroutine GCØMP	1219
Overlay (14,0) - Leading and Trailing Edge Structures, Weight and Mass Properties Analysis	1223
Program Table of Contents and References, and Table of Diagnostics	1225
Program Flow Charts	1239
Program ØLAY14	1240
Subroutine WLETE	1243
Subroutine GCNTL	1253

Section	Page
Subroutine LEWT	1264
Subroutine TEWT	1274
Subroutine TEDEV	1279
Subroutine TEWTI	1286
Subroutine LETEI	1295
Subroutine CTØT1	1309
Overlay (15,0) - Fuel, Contents and Concentrated Masses, Weight and Mass Properties Analysis	1315
Program Table of Contents and References, and Table of Diagnostics	1317
Program Flow Charts	1331
Program ØLAY15	1332
Subroutine WCØNT	1335
Subroutine MISCNT	1338
Subroutine MISCIT	1349
Subroutine CDL	1361
Subroutine FDIS	1370
Subroutine TBFWI1	1382
Subroutine CTØT2	1392
Subroutine PRTM	1397
Overlay (16,0) - Design Data for Torque-Box Analysis	1403
Program Table of Contents and References, and Table of Diagnostics	1405
Program Flow Charts	1419
Program ØLAY16	1420
Subroutine WDDATA	1423
Subroutine MTLCW	1428
Subroutine MTLFW	1432
Subroutine MTLPW	1437
Subroutine ALØAD	1440
Subroutine GJCAL	1448
Subroutine GJSI	1457
Subroutine GJTT	1460
Subroutine CNSTC	1465
Subroutine ABDW	1476
Subroutine YBSET	1481
Subroutine SS2	1486
Subroutine VLØAD1	1491

Section	Page
Overlay (17,0) - Data Generation and Output Data Processing	1495
Program Table of Contents and References, and Table of Diagnostics	1497
Program Flow Charts	1509
Program ØLAY17	1510
Subroutine WØDATA	1513
Subroutine PRTD	1525
Subroutine TBFWI	1537
Subroutine WFLDD	1547
Subroutine WVFDD	1552
Subroutine TPINT	1563
Subroutine CTØT	1568
Subroutine PINTØ	1573
APPENDIX C - PROGRAM FLOW CHARTS, OVERLAYS (9,0) AND (10,0)	1603
Overlay (9,0) - Torque-Box Structural Synthesis/ Weight Analysis for Metallic Designs - No. 1	1607
Program Table of Contents and References, and Table of Diagnostics	1609
Program Flow Charts	1621
Program ØLAY9	1622
Subroutine PRØG	1625
Subroutine DWYBA	1633
Subroutine DEADW	1638
Subroutine VLØAD	1642
Subroutine TBØPT	1646
Subroutine PIVØT	1660
Subroutine TEE	1672
Subroutine TEL	1676
Subroutine CSECW	1680
Subroutine DLPVT	1684
Subroutine PRTA	1693
Subroutine PRTH	1703
Overlay (10,0) - Torque-Box Structural Synthesis/ Weight Analysis for Metallic Designs - No. 2	1709
Program Table of Contents and References, and Table of Diagnostics	1710

Section	Page
Program Flow Charts s	1733
Program ØLAY10	1734
Subroutine CNSTR	1737
Subroutine SECTD	1748
Subroutine SFSCH	1761
Subroutine BØT	1780
Subroutine BØTC	1791
Subroutine TSCH	1795
Subroutine STBAR	1811
Subroutine STRG	1817
Subroutine STRGØ	1833
Subroutine STRIL	1837
Subroutine STRIB	1842
Subroutine SRRIB	1848
Subroutine STWEB	1851
Subroutine SKWEB	1857
Subroutine EIGJC	1860
Subroutine VFCAL	1865
Subroutine WTCAL	1871
Subroutine BHDJT	1878
Subroutine RTRIB	1887
Subroutine WTPIN	1890
Subroutine CG3P	1894
Subroutine SS	1899
Subroutine PRTB	1902
Subroutine PRTC	1907
Subroutine PRTBK	1911
APPENDIX D - PROGRAM FLOW CHARTS, OVERLAY (18,0)	1939
Overlay (18,0) - Torque-Box Structural Synthesis/ Weight Analysis for Advanced Composite Designs	1941
Program Table of Contents and References, and Table of Diagnostics	1943
Program Flow Charts	1969
Program ØLAY18	1970
Subroutine ATBØPT	1973
Subroutine ACLØAD	1982
Subroutine TEMPC	1990
Subroutine AVLOAD	1996
Subroutine ACPRØG	2000
Subroutine CKSTAB	2006

Section	Page
Subroutine ACWMS	2012
Subroutine ACWF LD	2027
Subroutine CKSFDH	2034
Subroutine WEIGH1	2038
Subroutine ACWRBS	2044
Subroutine ACWSTR	2057
Subroutine ACMRSK	2074
Subroutine ACSTRG	2079
Subroutine WEIGH2	2086
Subroutine ASTIFF	2090
Subroutine ACEIGJ	2096
Subroutine ACNSTR	2100
Subroutine ACPRTA	2111
Function XN	2123
Subroutine WTCAL	2126
Subroutine BHDJT	2128
Subroutine RTRIB	2130
Subroutine WTPIN	2132
Subroutine DWYBA	2134
Subroutine DEADW	2136
Subroutine CSECW	2138
Subroutine PIVØT	2140
Subroutine TEE	2142
Subroutine TEL	2144
Subroutine DLPVT	2146
Subroutine PRTB	2148
Subroutine PRTC	2150
Subroutine PRTH	2152
APPENDIX E - PROGRAM LISTINGS, OVERLAYS (8,0), (14,0), (15,0), (16,0) AND (17,0)	2179
Overlay (8,0) - Input Data Processing and Geometry Analysis	2185
Program ØLAY8	2186
Subroutine CCNTL	2186
Subroutine CASE	2193
Subroutine GEØMW	2195
Subroutine GEØMC	2203
Subroutine VSGEØM	2207
Subroutine TBWDC	2212
Subroutine ABØXC	2216
Subroutine DMAV	2218

Section	Page
Subroutine CAERO	2220
Subroutine SWPXYP	2220
Subroutine PRTG	2221
Subroutine GOAMP	2224
Overlay (14,0) - Leading and Trailing Edge Structures, Weight and Mass Properties Analysis	2229
Program ØLAY14	2230
Subroutine WLETE	2230
Subroutine GCNTL	2234
Subroutine LEWT	2240
Subroutine TEWT	2246
Subroutine TEDEV	2249
Subroutine TEWTI	2253
Subroutine LETEI	2259
Subroutine CTØT1	2266
Overlay (15,0) - Fuel, Contents and Concentrated Masses, Weight and Mass Properties Analysis	2269
Program ØLAY15	2270
Subroutine WCØNT	2270
Subroutine MISCNT	2271
Subroutine MISCIT	2278
Subroutine CDL	2286
Subroutine FDIS	2291
Subroutine TBFWI1	2299
Subroutine CTØT2	2305
Subroutine PRTM	2307
Overlay (16,0) - Design Data for Torque-Box Analysis	2309
Program ØLAY16	2310
Subroutine WDDATA	2310
Subroutine MTLCW	2313
Subroutine MTLFW	2315
Subroutine MTLPW	2318
Subroutine ALØAD	2319
Subroutine GJCAL	2324
Subroutine GJSI	2330
Subroutine GJTT	2331
Subroutine CNSTC	2333
Subroutine ABDW	2339

Section	Page
Subroutine YBSET	2341
Subroutine SS2	2344
Subroutine VLØAD1	2345
Overlay (17,0) - Data Generation and Output Data Processing	2349
Program ØLAY17	2350
Subroutine WØDATA	2350
Subroutine PRTD	2359
Subroutine TBFWI	2367
Subroutine WFLDD	2373
Subroutine WVFDD	2376
Subroutine TPINT	2385
Subroutine CTØT	2387
Subroutine PINTØ	2389
APPENDIX F - PROGRAM LISTINGS, OVERLAYS (9,0), (10,0) AND (18,0)	2417
Overlay (9,0) - Torque-Box Structural Synthesis/ Weight Analysis for Metallic Designs - No. 1	2423
Program ØLAY9	2424
Subroutine PRØG	2424
Subroutine DWYBA	2429
Subroutine DEADW	2432
Subroutine VLØAD	2434
Subroutine TBØPT	2436
Subroutine PIVØT	2443
Subroutine TEE	2450
Subroutine TEL	2452
Subroutine CSECW	2453
Subroutine DLPVT	2455
Subroutine PRTA	2461
Subroutine PRTH	2466
Overlay (10,0) - Torque-Box Structural Synthesis/ Weight Analysis for Metallic Designs - No. 2	2469
Program ØLAY10	2470
Subroutine CNSTR	2470
Subroutine SECTD	2477
Subroutine SFSCH	2485
Subroutine BØT	2494
Subroutine BØTC	2497

Section	Page
Subroutine TSCH	2498
Subroutine STBAR	2507
Subroutine STRG	2509
Subroutine STRGØ	2514
Subroutine STRIL	2516
Subroutine STRIB	2518
Subroutine SRRIB	2520
Subroutine STWEB	2521
Subroutine SKWEB	2523
Subroutine EIGJC	2524
Subroutine VFCAL	2528
Subroutine WTCAL	2531
Subroutine BHDJT	2537
Subroutine RTRIB	2541
Subroutine WTPIN	2542
Subroutine CG3P	2544
Subroutine SS	2545
Subroutine PRTB	2546
Subroutine PRTC	2548
Subroutine PRTBK	2550
Overlay (18,0) - Torque-Box Structural Synthesis/ Weight Analysis for Advanced Composite Designs	2553
Program ØLAY18	2554
Subroutine ATBØPT	2554
Subroutine ACLØAD	2561
Subroutine TEMPC	2566
Subroutine AVLØAD	2569
Subroutine ACPRØG	2572
Subroutine CKSTAB	2577
Subroutine ACWMS	2580
Subroutine ACWFDH	2590
Subroutine CKSFDH	2594
Subroutine WEIGH1	2595
Subroutine ACWRBS	2598
Subroutine ACWSTR	2606
Subroutine ACMRSK	2615
Subroutine ACSTRG	2619
Subroutine WEIGH2	2622
Subroutine ASTIFF	2624
Subroutine ACEIGJ	2629
Subroutine ACNSTR	2632
Subroutine ACPRTA	2642
Function XN	2650

Section**Page**

Subroutine WTCAL	2650
Subroutine BHDJT	2650
Subroutine RTRIB	2651
Subroutine WTPIN	2651
Subroutine DWYBA	2651
Subroutine DFADW	2651
Subroutine CSECW	2651
Subroutine PIVOT	2651
Subroutine TEE	2652
Subroutine TEL	2652
Subroutine DLPVT	2652
Subroutine PRTB	2652
Subroutine PRTC	2652
Subroutine PRTH	2653

LIST OF ILLUSTRATIONS

Figure	Title	Page
1	Wing and Empennage Module, Overlay Execution Flow Diagram.	33
2	Overlay (8,0) - Input Data Processing and Geometry Analysis	68
3	Overlay (14,0) - Leading and Trailing Edge Structures, Weight and Mass Properties Analysis.	69
4	Overlay (15,0) - Fuel, Contents and Concentrated Masses, Weight and Mass Properties Analysis.	70
5	Overlay (16,0) - Design Data for Torque-box Analysis . . .	71
6	Overlay (9,0) - Torque-box Structural Synthesis/Weight Analysis for Metallic Designs - No. 1.	72
7	Overlay (10,0) - Torque-box Structural Synthesis/Weight Analysis for Metallic Designs - No. 2.	73
8	Overlay (18,0) - Torque-box Structural Synthesis/Weight Analysis for Advanced Composite Designs.	74
9	Overlay (17,0) - Data Generation and Output Data Processing	75
10	Weight Summary, Wing Group	84
11	Weight Summary, Horizontal Tail Group.	86
12	Weight Summary, Vertical Tail Group.	88
13	General Program Functional Flow Diagram.	259
14	Logic and Execution Subroutine Flow Diagram for Lifting Surface Structural Weight Estimation Module. . .	260
15	Structural Synthesis/Weight Analysis Reference System and Weight Integration	261
16	Idealized Lifting Surface Planform	264
17	Blended Wing Planform.	267
18	Idealized Box Section.	269
19	Blended Wing Torque-Box Geometry	270
20	Blended Wing Normalized Geometry	271
21	Variable-Sweep Wing Geometry Idealization.	273
22	Mass Properties Integration Grid System.	275
23	Leading Edge Structure Weight Distribution	278
24	Leading Edge Structure Chordwise Weight Distribution . . .	279
25	Trailing Edge Structure Chordwise Weight Distribution. . .	281
26	Wing Fuel Distribution	282
27	Contents Weight Distribution	285
28	Externally Mounted Component Description	286
29	Loads Rotation and Translation	292
30	Typical Material Stress-Strain Curve and Evaluation Data	295
31	Effective Structural Width Idealization.	298

Figure		Page
32	Multirib Stringer Design Options	301
33	Multispar Design Options	302
34	First Search Level, Multirib or Multispar Construction . .	305
35	Second Search Level, Multirib.	305
36	Interpolation Scheme for Stress Level.	309
37	Stringer-Column Geometry	313
38	Composite-Ply Orientations	323
39	Laminate Configuration	324
40	Advanced Composite Structures Checked for Stability. . . .	332
41	Torque-Box Cross Section	344
42	Logic and Computational Flow Diagram for Total Multirib Torque-Box Optimization, Subroutine ACWRBS	352
43	Logic and Computational Flow Diagram for Synthesis of Stringer Stiffened Covers, Subroutine ACWSTR	353
44	Logic and Computational Flow Diagram for Skin/Stringer Load and Skin Stability, Subroutine ACMRSK	354
45	Stringer Types for Multirib Torque-Box Covers.	355
46	Leading and Trailing Edge Control Geometry	363
47	Geometry Description for Trailing Edge Device No. 3, 4, and 5 - Trailing Edge Flaps.	370
48	Lifting Surface Component Weight Summary	374
49	Torque-Box Weight Summary, Page 1.	375
50	Torque-Box Weight Summary, Page 2, Pivot Type.	376
51	Flutter, Flexible Airloads, Weight Optimization Design Loop (Stand-Alone Programs).	379
52	Flexible Loads Analysis Mass Distribution and Integration Reference System	381
53	Flutter Optimization Analysis Mass Distribution and Integration Reference System	382
54	Structural Synthesis/Weight Analysis Reference System and Weight Integration.	384
55	Mass Properties Integration Grid System.	386
56	Overlay (8,0), Input Data Processing and Geometry Analysis	420
57	Overlay (8,0), Logic Flow Diagram.	421
58	Geometry Summary Data - Page 1	546
59	Geometry Summary Data - Page 2	547
60	Geometry Summary Data - Swept Platform Position.	548

LIST OF TABLES

Table	Title	Page
1	Subprogram List, Wing and Empennage Module	34
2	Wing and Empennage Module Overlay Subprogram List.	76
3	Overlay Blank Common Requirements.	82
4	Mass Storage File 1 Records, Wing and Empennage Module . . .	90
5	FDAT Array, Final Output Data.	98
6	XMISC Array.	100
7	IP Array, Print Control Data	104
8	D Array, Input Variable Data	109
9	ND Array	191
10	DC Array, Miscellaneous Constants.	202
11	Array References, Array D.	209
12	D Array Variables Cross-Reference List	231
13	Array References, Array ND	243
14	Array References, Array DC	255
15	Torque-Box Elements, Section Stiffness Calculations.	356
16	Sample Wing Torque-Box Program Calibration and Weight Index Coefficients	359
17	Flap-Type Indicator and Correlation Coefficients	372
18	Torque-Box Summary Page Line Item Definitions.	377
19	External References, Overlay (8,0) Routines.	418
20	WD Array, Wing and Empennage Variable Data, Mass Storage File 1, Record 21	425
21	SPAL Array, Wing and Empennage Flutter Analysis Data, Mass Storage File 1, Record 38	430
22	DLE Array, Variable Data Subarray for Nonlinear Leading Edges.	436
23	DTE Array, Variable Data Subarray for Nonlinear Trailing Edges	438
24	DTC Array, Variable Data Subarray for Nonlinear Thickness Ratios	440
25	DAF Array, Airfoil Cross-Section Data.	442
26	Polynomial Coefficients of Properties of Normalized Airfoils.	448
27	Airfoil Ordinates.	449
28	AFD Array.	450
29	TAF Array, Airfoil Depth Data.	451
30	TXY Array, Geometry Data	455
31	YTB Array, Torque-Box Geometry Data.	460
32	YLE Array, Leading Edge Geometry Data.	462
33	YTE Array, Trailing Edge Geometry Data	463
34	T Array, Locations 1-200, 489-553.	464
35	TVS Array.	470

Table	Title	Page
36	TGJ Array, Flutter Analysis Data	482
37	TFRDK Array, Geometry Array for Mass Properties Calculations	485
38	YC Array, Overlay (8,0).	487
39	YTC Array.	490
40	TD Array, Printed Output Geometry Data	493
41	TS Array	500
42	Data Source Matrix for Adjustment of Variable Data, Array D.	505
43	Variable References, Subroutine CCNTL.	509
44	Variable References, Subroutine CASE	512
45	TT Array, GEOMW.	516
46	Variable References, Subroutine GEOMW.	518
47	Variable References, Subroutine GEOMC.	523
48	Variable References, Subroutine VSGEOM	526
49	Variable References, Subroutine TBWDC.	530
50	TR Array, TBWDC.	531
51	TT Array, TBWDC and ABXC.	532
52	Variable References, Subroutine ABXC.	536
53	Variable References, Subroutine DMAX	539
54	Variable References, Subroutine CAERO.	541
55	Variable References, Subroutine SWPXYP	544
56	Variable References, Subroutine PRTG	549
57	Variable References, Subroutine GCOMP.	551
58	Cross-Reference List for Subroutine Variable Reference Tables	553
59	External References, Overlay (14,0) Routines	556
60	External References, Overlay (15,0) Routines	557
61	External References, Overlay (16,0) Routines	558
62	External References, Overlay (9,0) Routines	560
63	External References, Overlay (10,0) Routines	562
64	External References, Overlay (18,0) Routines	565
65	External References, Overlay (17,0) Routines	569
66	Variable References, Subroutine WLETE.	570
67	Variable References, Subroutine GCNTL.	571
68	Variable References, Subroutine LEWT	572
69	Variable References, Subroutine TEWT	574
70	Variable References, Subroutine TEWTI.	575
71	Variable References, Subroutine TEDEV.	576
72	Variable References, Subroutine LETEI.	577
73	Variable References, Subroutine WCNTL.	579
74	Variable References, Subroutine MISCNT	580
75	Variable References, Subroutine MISCIT	582
76	Variable References, Subroutine CDL.	584
77	Variable References, Subroutine FDIS	586
78	Variable References, Subroutine PRMT	588

Table	Title	Page
79	Variable References, Subroutine WDDATA.	589
80	Variable References, Subroutine MTLCW	592
81	Variable References, Subroutine MTLFW	593
82	Variable References, Subroutine MTLPW	594
83	Variable References, Subroutine ALQAD	595
84	Variable References, Subroutine GJCAL	598
85	Variable References, Subroutine GJSI.	601
86	Variable References, Subroutine GJTI.	602
87	Variable References, Subroutine CNSTC	605
88	Variable References, Subroutine ABDW	608
89	Variable References, Subroutine YBSET	611
90	Variable References, Subroutine PRQG	613
91	Variable References, Subroutine DEADW	617
92	Variable References, Subroutine DWYBA	619
93	Variable References, Subroutine VLQAD	621
94	Variable References, Subroutine TBQPT	624
95	Variable References, Subroutine CSECW	626
96	Variable References, Subroutine PIVQT	627
97	Variable References, Subroutine TEE	631
98	Variable References, Subroutine TEL	632
99	Variable References, Subroutine DLPVT	633
100	Variable References, Subroutine PRTA.	635
101	Variable References, Subroutine PRTH.	637
102	Variable References, Subroutine CNSTR	638
103	Variable References, Subroutine SECTD	641
104	Variable References, Subroutine SFSCH	644
105	Variable References, Subroutine BOT	646
106	Variable References, Subroutine BOTC.	647
107	Variable References, Subroutine TSCH.	648
108	Variable References, Subroutine STBAR	650
109	Variable References, Subroutine STRG.	651
110	Variable References, Subroutine STRQØ	652
111	Variable References, Subroutine STRIL	653
112	Variable References, Subroutine STRIB	654
113	Variable References, Subroutine SRRIB	655
114	Variable References, Subroutine STWEB	656
115	Variable References, Subroutine SKWEB	657
116	Variable References, Subroutine VFCAL	658
117	Variable References, Subroutine EIGJC	659
118	Variable References, Subroutine WTCAL	660
119	Variable References, Subroutine BHDJT	662
120	Variable References, Subroutine RTRIB	663
121	Variable References, Subroutine WTPIN	664
122	Variable References, Subroutine SS.	665
123	Variable References, Subroutine CG3P.	666
124	Variable References, Subroutine PRTB.	667

Table	Title	Page
125	Variable References, Subroutine PRTBK	668
126	Variable References, Subroutine PRTC.	669
127	Variable References, Subroutine ACPROG.	670
128	Variable References, Subroutine ACLPAD.	674
129	Variable References, Subroutine TEMPC	676
130	Variable References, Subroutine AVLAD.	678
131	Variable References, Subroutine ATBPT.	681
132	Variable References, Subroutine ACNSTR.	685
133	Variable References, Subroutine ACWMS	689
134	Variable References, Subroutine CKSTAB.	693
135	Variable References, Subroutine WEIGH1.	696
136	Variable References, Subroutine ACWFDH.	698
137	Variable References, Subroutine CKSFDH.	700
138	Variable References, Subroutine ACWRBS.	702
139	Variable References, Subroutine ACWSTR.	706
140	Variable References, Subroutine ACMRSK.	712
141	Variable References, Subroutine ACSTRG.	716
142	Variable References, Subroutine WEIGH2.	718
143	Variable References, Subroutine ASTIFF.	720
144	Variable References, Subroutine ACEIGJ.	723
145	Variable References, Function XN	724
146	Variable References, Subroutine ACPRTA.	725
147	Variable References, Subroutine WDATA.	729
148	Variable References, Subroutine PRTD.	732
149	Variable References, Subroutine TBFWI	734
150	Variable References, Subroutine WFLDD	735
151	Variable References, Subroutine WFDD	737
152	Variable References, Subroutine TPINT	740
153	Variable References, Subroutine PINT	741
154	Variable References, Subroutine CTOT	742
155	Cross-Reference List for Array Core Maps.	770
156	DLE Array, Variable Data Subarray for Fixed Leading Edge Structures	774
157	DTE Array, Variable Data Subarray for Fixed Trailing Edge Structures.	776
158	DLED1 Array, Variable Data Subarray for Leading Edge Control Surfaces.	778
159	DLEDK Array, Variable Data Subarray, Leading Edge Control Surface Analysis Constants	781
160	DTED1 Array, Variable Data Subarray for Trailing Edge Control Surfaces, Spoilers.	785

Table	Title	Page
161	DTED2 Array, Variable Data Subarray for Trailing Edge Flap-Type Control Surfaces	786
162	DSPDK Array, Variable Data Subarray, Spoiler Control Surface Analysis	793
163	DFLPK Array, Variable Data Subarray, Trailing Edge Flap Control Surface Analysis	794
164	DAILK Array, Variable Data Subarray, Aileron, Elevator, and Rudder Control Surface Analysis.	795
165	DFSP Array, Variable Data Subarray, TE Flap-Type Control Surface Support Structure Distribution Constants	797
166	TG Array	799
167	TGA Array	802
168	YC Array, Overlays (14,0), (15,0), and (17,0).	804
169	TWG Array	807
170	CCW Array	814
171	CCI, CCL, and CCT Arrays, Overlay (14,0)	818
172	TCS Array, Overlay (14,0).	823
173	CKD Array, Subroutine LETEI	826
174	CLEI and CTEI Arrays	827
175	CIØY Array	829
176	TGR Array, Subroutine LEWT	831
177	TST Array, Subroutine LEWT	834
178	TTED Array	836
179	TST Array, Subroutine TEWTI and TEDEV.	839
180	TGR Array, Subroutine TEWT and TEWTI	845
181	TGR Array, Subroutine LETEI.	849
182	TST Array, Subroutine LETEI.	852
183	TE Array	855
184	TST Array, Subroutine WLETE.	857
185	CMII Array	859
186	CCDLI Array, Overlays (15,0), (16,0), and (17,0)	862
187	CFL1I and CFL2I Arrays	868
188	CKD Array, Overlay (15,0).	870
189	TVMT Array	873
190	T Array, Locations 201-900	876
191	Subroutine References for T(201)-T(900) Variables.	884
192	TVF Array	891
193	CTBW Array	898
194	CTBI Array	901
195	WCG Array	904
196	ACL Array	905
197	ACLT Array	908
198	ACVMT and V Arrays	909
199	TEIGJ Array.	911
200	ENQ Array	912

Table	Title	Page
201	ENQC Array	914
202	CNT Array.	916
203	STRESS Array	920
204	ENX Array.	922
205	EL Array	924
206	IEL Array.	927
207	SPB Array.	929
208	SPN Array.	931
209	TF Array	932
210	W Array, Subroutine WEIGH1	935
211	TX Array	937
212	TXS Array.	943
213	STRING Array	946
214	W Array, Subroutine WEIGH2	949
215	TSF Array.	951
216	TA Array	955
217	CD Array, Locations 1-400, Stiffness Data Arrays	957
218	TDC Array, Overlay (18,0).	961
219	DDUC and DDLA Arrays	968
220	DDIS Array	970
221	DDFS and DDRS Arrays	972
222	DDSTR Array.	974
223	DSPLØ Array, Analysis Constants.	977
224	TDC Array, Overlays (9,0) and (10,0)	978
225	TSC Array.	990
226	TSEC Array	998
227	TSS Array, Subroutines SFSCH and TSCH.	1006
228	TSS Array, Subroutine STRIB.	1014
229	TSS Array, Subroutine STWEB.	1017
230	TWT Array, Locations 1-330, Weight Analysis Data and Constants.	1020
231	TWT Array, Locations 331-400, Section Weight Per Inch Data, Subroutine WTPIN.	1047
232	TWT Array, Locations 331-400, Center-Section Weight Data, Subroutine CSECW	1053
233	TWT Array, Locations 1 Through 50 and 331 Through 400, Torque-Box Weight Increment Data for Pivot Designs, Subroutine DLPVT.	1057
234	PT Array, Subroutine PIVØT	1065
235	S Array, Subroutine PIVØT.	1075
236	TSS Array, Total Weight Summary Data, Subroutines TBØPT and ATBØPT	1083
237	TØ Array, Subroutines TBØPT and ATBØPT	1094

LIST OF TABLES

Table	Title	Page
A-1	Appendix References for Wing and Empennage Module Routines. . .	1124
B-1	Appendix References for Overlay (8,0) Routines.	1133
B-2	Appendix References for Overlay (14,0) Routines	1134
B-3	Appendix References for Overlay (15,0) Routines	1135
B-4	Appendix References for Overlay (16,0) Routines	1136
B-5	Appendix References for Overlay (17,0) Routines	1137
C-1	Appendix References for Overlay (9,0) Routines.	1604
C-2	Appendix References for Overlay (10,0) Routines	1605
D-1	Appendix References for Overlay (18,0) Routines	1940
E-1	Appendix References for Overlay (9,0) Routines.	2180
E-2	Appendix References for Overlay (14,0) Routines	2181
E-3	Appendix References for Overlay (15,0) Routines	2182
E-4	Appendix References for Overlay (16,0) Routines	2183
E-5	Appendix References for Overlay (17,0) Routines	2184
F-1	Appendix References for Overlay (9,0) Routines.	2419
F-2	Appendix References for Overlay (10,0) Routines	2420
F-3	Appendix References for Overlay (18,0) Routines	2421

APPENDIX E

PROGRAM LISTINGS, OVERLAYS
(8,0), (14,0), (15,0), (16,0), AND (17,0)

TABLE E-1. APPENDIX REFERENCES FOR OVERLAY (8,0) ROUTINES

Routine	Appendix Reference Pages	
	Program Flow Charts	Program Listings
OLAY8	1154	2186
ABXC	1199	2216
CAERO	1208	2220
CASE	1166	2193
CCNTL	1157	2186
DMAX	1203	2218
GOOMP	1219	2224
GEOMC	1180	2203
GEOMW	1170	2195
PRTG	1214	2221
SWPXYP	1211	2220
TBWDC	1193	2212
VSGEOM	1187	2207

TABLE E-2. APPENDIX REFERENCES FOR OVERLAY (14,0) ROUTINES

Routine	Appendix Reference Pages	
	Program Flow Charts	Program Listings
ØLAY14	1240	2230
CTØT1	1309	2266
GCNTL	1253	2234
LETEI	1295	2259
LEWT	1264	2240
TEDEV	1279	2249
TEWT	1274	2246
TEWTI	1286	2253
WLETE	1243	2230

TABLE E-3. APPENDIX REFERENCES FOR OVERLAY (15,0) ROUTINES

Routine	Appendix Reference Pages	
	Program Flow Charts	Program Listings
ØLAY15	1332	2270
CDL	1361	2286
CTØT2	1392	2305
FDIS	1370	2291
MISCIT	1349	2278
MISCNT	1338	2271
PRIM	1397	2307
TBFWI1	1382	2299
WCØNT	1335	2270

TABLE E-4. APPENDIX REFERENCES FOR OVERLAY (16,0) routines

Routine	Appendix Reference Pages	
	Program Flow Charts	Program Listings
ØLAY16	1420	2310
ABDW	1476	2339
ALØAD	1440	2319
CNSTC	1465	2333
GJCAL	1448	2324
GJSI	1457	2330
GJTT	1460	2331
MTLCW	1428	2313
MTLFW	1432	2315
MTLPW	1437	2318
SS2	1488	2344
VLØAD1	1491	2345
WDDATA	1423	2310
YBSET	1481	2341

TABLE E-5. APPENDIX REFERENCES FOR OVERLAY (17,0) ROUTINES

Routine	Appendix Reference Pages	
	Program Flow Charts	Program Listings
ØLAY17	1510	2350
CTØT	1568	2387
PINTØ	1573	2389
PRTD	1525	2359
TBFWI	1537	2367
TPINT	1563	2385
WFLDD	1547	2373
WØDATA	1513	2350
WVFDD	1552	2376

OVERLAY (8,0)

INPUT DATA PROCESSING AND GEOMETRY ANALYSIS

FORTRAN MODULE (LIST,AUTOGEN)

CARD NO	CONTENTS	****
1	*****	
2	C	
3	C	****PROGRAM BLANK****
4	C	***PROGRAM FOR FIRST OVERLAY OF WIND/EMPENNAGE MODULE***
5	C	INPUT DATA PROCESSING AND GEOMETRY CALCULATIONS.
6	C	
7	*****	
8	C	
9	C	PROGRAM BLANK
10		
11	C	COPIES T(1:20)
12	C	
13	C	COPIES /MISC/ MISC(100)
14	C	
15	C	REHIND 24
16	C	
17	C	BUFFER IN(24,1)(T(1),T(1:20))
18	C	
19	C	IF(UNIT(24))10,10,10
20	C	
21	C	10 CALL COM1
22	C	
23	C	REHIND 24
24	C	
25	C	BUFFER OUT(24,1)(T(1),T(1:20))
26	C	
27	C	IF(UNIT(24))20,20,20
28	C	
29	C	20 CONTINUE
30	C	
31	C	END
32	*****	
33	C	
34	C	****SUBROUTINE COM1****
35	C	***INITIALIZATION - DATA TRANSFER FROM GENERAL DATA***
36	C	
37	*****	
38	C	
39	C	SUBROUTINE COM1 10010000
40	C	10010011
41	C	***DESIGN DATA/WEIGHT ANALYSIS CONTROL PROGRAM*** 10010010
42	C	10010020
43	C	COPIES T(1:20) 10010030
44	C	COPIES /PRINT/ IP(80) 10010031
45	C	COPIES /MISC/ MISC(100) 10010032
46	C	10010040
47	C	DIMENSION D(2000),CD(2000),ND(100),TW(800), 10010050
48	C	IR(10),JD(200), 10010051
49	C	SDC(100) 10010050
50	C	10010060
51	C	EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)), 10010070
52	C	(TW(1),T(8211)),(DC(1),D(1401)), 10010071
53	C	2(R(1),MISC(95)),(ND(1),T(1)), 10010072
54	C	3(MAREA,D(240)),(VTID,D(800)), 10010073
55	C	5(MCARE,ND(80)),(MPAGE,ND(85)),(MOMATL,ND(88)) 10010070
56	C	10010080
57	C	10010100
58	C	****CLEAR COPIES 1-7120*** 10010110
59	C	DO 100 I=1,7120 10010120
60	C	T(I) = 0.0 10010121
61	C	100 CONTINUE 10010124
62	C	10010125
63	C	*****SETUP ND ARRAY CONSTANTS***** 10010130
64	C	T(1) = 1.0 10010127
65	C	T(2) = 2.0 10010128
66	C	T(3) = 3.0 10010129
67	C	T(4) = 4.0 10010130
68	C	T(5) = 5.0 10010131
69	C	T(6) = 6.0 10010132
70	C	T(7) = 7.0 10010133

BL/IO/74	INPUT LISTING	AUTOFLIM CHART SET - SHEEP	WIND AND EXPENSE/AGE MODULE -
CARD NO	****	CONTENTS	****
71	T(0) = 0.0		10010134
72	T(0) = 0.0		10010135
73	T(10) = 10.0		10010136
74	T(11) = 11.0		10010137
75	T(12) = 12.0		10010138
76	T(13) = 120.0		10010139
77	T(14) = 195.0		10010140
78	T(15) = 190.0		10010141
79	T(16) = 31.0		10010142
80	T(17) = 51.0		10010143
81	T(18) = 250.0		10010144
82	T(19) = 10.0		10010145
83	T(20) = 10.0		10010146
84	C		10010149
85	DO 101 I=1,20		10010150
86	MD(I) = T(I)		10010151
87	101 CONTINUE		10010152
88	C		10010153
89	C ***SETUP COMMON-READ DATA FOR WIND, HORIZ, OR VERT***		10010154
90	C *RCD 23-WIND, RCD 26- HORIZ, RCD 27-VERT*		10010155
91	C *ID=IDISC(2), 1=WIND, 2=HORIZ, 3=VERT*		10010156
92	C		10010157
93	C ***READ VARIABLE DATA AND DATA MANAGEMENT DATA--RCD 21***		10010158
94	C *SETUP PAGE, CASE, PARL NO*		10010159
95	110 NPAGE = 0.0		10010160
96	NCASE = IDISC(4)		10010161
97	NPART = IDISC(1)		10010162
98	C		10010163
99	NDV = 27		10010164
100	IF (IDISC(2) - 2.0) 111,112,113		10010165
101	111 NDV = 23		10010166
102	GO TO 113		10010167
103	112 NDV = 26		10010168
104	113 CALL READS (1,0(1),2000,NDV)		10010169
105	CALL READS (1,T(1001),50,30)		10010170
106	CALL READS (1,MD(1),200,21)		10010171
107	C		10010172
108	C ***TEST IP(3) FOR DATA TRANSFER ARRAY MD AND D REGION		10010173
109	C *PRINT--MD(1-200) AND D(100-304), D(1200-1204) AND		10010174
110	C * D(1000-1030)*		10010175
111	IF (IP(3)) 1130,1130,1130		10010176
112	1130 WRITE (6,1131)		10010177
113	1131 FORMAT (1H1,10X,47H---DATA MANAGEMENT TRANSFER DATA-->C ARRAY---		10010178
114	1 ,33X,10H** CTRL = IP(3) **/END MD)		10010179
115	1132 FORMAT (1H 14,RE10.0)		10010180
116	1133 FORMAT (1H0,10X,60H---INITIAL STATUS OF VARIABLE DATA-->D ARRAY SE		10010181
117	1134 DATA TRANSFER--->X,10H** CTRL = IP(3) **/END D)		10010182
118	C		10010183
119	DO 1134 N=1,200,5		10010184
120	K = N + MD(4)		10010185
121	WRITE (6,1135)N,MD(1),1-N,K,1)		10010186
122	1134 CONTINUE		10010187
123	C		10010188
124	WRITE (6,1133)		10010189
125	DO 1135 N=00,304,5		10010190
126	K = N + MD(4)		10010191
127	WRITE (6,1135)N,0(1),1-N,K,1)		10010192
128	1135 CONTINUE		10010193
129	N = 1000		10010194
130	WRITE (6,1132)N,0(1)+1270,1-1,0)		10010195
131	DO 1136 N=1000,1030,0		10010196
132	K = N + MD(4)		10010197
133	WRITE (6,1132)N,0(1),1-N,K,1)		10010198
134	1136 CONTINUE		10010199
135	C		10010200
136	C ***END DATA--MOVE DATA ONLY IF INPUT=0***		10010201
137	C *0(00)=CONTROL WORD. IF NOT ZERO, SKIP MOVE FOR END		10010202
138	C * DATA BLOCK--0(01,00,01,03,04,05,06,07,1000,00,07,1000)		10010203
139	C *IF=0, MOVE DATA ONLY IF INPUT=0*		10010204
140	1130 IF (0(00)) 114,114,130		10010205
141	114 0(00) = MD(2)		10010206

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WIND AND EXPENDITURE MODULE -
CARD NO	****	CONTENTS	****
142	IF (D(101)) 115,116,118		10010400
143	115 D(101) = MD(2)		10010410
144	116 IF (D(100)) 117,117,118		10010420
145	117 D(100) = MD(103)		10010430
146	118 IF (D(101)) 119,119,120		10010440
147	119 D(101) = MD(103)		10010450
148	120 IF (D(104)) 121,121,122		10010460
149	121 D(104) = MD(104)		10010470
150	122 IF (D(105)) 123,123,124		10010480
151	123 D(105) = MD(104)		10010490
152	124 IF (D(100)) 125,125,126		10010500
153	125 D(100) = MD(105)		10010510
154	126 IF (D(100)) 127,127,128		10010520
155	127 D(100) = MD(105)		10010530
156	128 IF (D(101)) 129,129,130		10010540
157	129 D(101) = D(1)		10010550
158	130 IF (D(105)) 131,131,132		10010560
159	131 D(105) = MD(4)		10010570
160	132 IF (D(105)) 134,133,134		10010580
161	133 D(105) = MD(5)		10010590
162	134 IF (D(107)) 135,135,136		10010600
163	135 D(107) = MD(6)		10010610
164	136 IF (D(1200)) 137,137,138		10010620
165	137 D(1200) = MD(106)		10010630
166	C		10010640
167	C ***TEST TYPE OF SURFACE***		10010650
168	138 IF (2.0 - WINDSC(2)) 139,150,160		10010660
169	C		10010670
170	C ***VERT--NONE BASIC VERT DATA***		10010680
171	139 D(110) = 0.0		10010690
172	D(1204) = 0.0		10010700
173	1391 IF (D(1250)) 1392,1392,1393		10010703
174	1392 D(1250) = WINDSC(110)		10010704
175	C		10010705
176	C ***SET IND-3 FOR VERT***		10010706
177	1393 IND = MD(3)		10010707
178	C		10010708
179	IF (D(1200)) 140,140,141		10010710
180	140 D(1200) = MD(150)		
181	C		10010720
182	C ***CLEAR MD(17-182) AND NONE VERT DATA FOR COPPER NONE**		10010740
183	141 DO 142 1=1,95		10010750
184	MD(1+6) = 0.0		10010760
185	142 CONTINUE		10010770
186	C		10010780
187	DO 145 1=1,4		10010790
188	MD(1+23) = MD(1+144)		10010800
189	MD(1+27) = MD(1+140)		10010810
190	MD(1+31) = MD(1+152)		10010820
191	MD(1+150) = MD(1+105)		10010830
192	MD(1+13) = MD(1+136)		10010840
193	IF (1 - 3) 143,144,145		10010850
194	143 MD(1+20) = MD(1+142)		10010860
195	MD(1+17) = MD(1+140)		10010870
196	144 MD(1+6) = MD(1+133)		10010880
197	145 CONTINUE		10010890
198	MD(14) = MD(137)		10010900
199	T(1101) = WINDSC(17)		10010910
200	T(1102) = WINDSC(20)		10010911
201	T(1103) = T(1040)		10010912
202	C		10010919
203	C ***TEST FOR T-TAIL VERT**		10010920
204	IF (D(1307)) 100,100,146		10010930
205	146 DO 147 1=1,3		10010940
206	IF (D(1+330)) 147,147,147		10010950
207	147 D(1+330) = T(1+1000)		10010960
208	1476 IF (D(1+307)) 1471,1471,1472		10010970
209	1471 D(1+307) = T(1+1004)		10010980
210	1472 CONTINUE		10010990
211	IF (D(1330)) 1473,1473,1474		10010001
212	1473 D(1330) = T(1040)		10010002

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WIND AND ENTRANCE MODULE -
CARD NO	****	CONTENTS	****
213	1474 IF (D(1310)) 1470,1475,1478		10010003
214	1475 D(1310) = T(1012)		10010004
215	1478 GO TO 100		10010005
216	C		10010006
217	C		10011000
218	C	***HORI***	10011010
219	C		10011020
220	100 IF (D(204)) 100,105,108		10011030
221	105 D(204) = MD(157)		10011032
222	108 CONTINUE		
223	1001 IF (D(250)) 1502,1502,1503		10011037
224	1002 D(250) = MD(150)		10011034
225	C		10011035
226	C	***SET MD-2 FOR HORI***	10011036
227	1003 MD = MD(2)		10011037
228	C		10011038
229	C		10011040
230	DO 151 I=1,05		10011050
231	MD(I-01) = 0.0		10011060
232	151 CONTINUE		10011070
233	C		10011080
234	DO 154 I=1,4		10011090
235	MD(I-23) = MD(I-121)		10011100
236	MD(I-27) = MD(I-125)		10011110
237	MD(I-31) = MD(I-129)		10011120
238	MD(I-100) = MD(I-162)		10011130
239	MD(I-12) = MD(I-113)		10011140
240	IF (I - 3) 102,153,154		10011150
241	102 MD(I-20) = MD(I-110)		10011160
242	MD(I-17) = MD(I-117)		10011170
243	153 MD(I-01) = MD(I-110)		10011180
244	154 CONTINUE		10011190
245	C		10011200
246	T(1101) = MD(150)		10011210
247	T(1102) = MD(150)		10011220
248	T(1103) = T(1047)		10011230
249	GO TO 170		10011240
250	C		10011250
251	C		10012000
252	C	***HIND***	10012010
253	100 D(110) = D(1)		10012020
254	D(204) = 0.0		10012030
255	D(205) = 0.0		10012040
256	1010 IF (D(200)) 1011,1011,1012		10012070
257	1011 D(200) = MD(150)		10012080
258	1012 IF (D(200)) 102,102,1013		10012090
259	1013 IF (D(105)) 1014,1014,1015		10012100
260	1014 D(105) = D(200)		10012110
261	1015 IF (D(107)) 1016,1016,102		10012120
262	1016 D(107) = D(200)		10012130
263	C		10012140
264	C	***SET MD-1 FOR WIND***	10012150
265	102 MD = MD(1)		10012160
266	C		10012170
267	T(1101) = MD(150)		10012180
268	T(1102) = MD(150)		10012190
269	T(1103) = T(1048)		10012200
270	C		10012210
271	C	***TEST FOR W/SWP SECTION***	10012220
272	IF (D(100)) 103,103,104		10012230
273	103 IF (MD(101)) 170,170,104		10012240
274	104 IF (D(320)) 105,105,106		10012250
275	105 D(320) = MD(150) - MD(150)		10012260
276	106 DO 100 I=1,3		10012270
277	IF (D(1+320)) 107,107,108		10012280
278	107 D(1+320) = T(1+100)		10012290
279	108 CONTINUE		10012300
280	T(1101) = T(1044)		10012310
281	T(1102) = T(1045)		10012320
282	T(1103) = T(1043)		10012330
283	C		10012340

06/16/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MIND AND EXPENDITURE MODULE -
CARD NO	****	CONTENTS	****
204	C		10013000
205	C	***MIND/NERI***	10013010
206		170 DO 171 1=1,3	10013020
207		1 1=3561 = 0.0	10013030
208		D(1+336) = 0.0	10013040
209		171 CONTINUE	10013050
210		D(310) = 0.0	10013060
211	C		10013070
212	C		10014000
213	C	***CORREN MOVE***	10014010
214	C	***SURFACE REF DATA--D(175-178)--ALWAYS**	10014020
215		100 D(175) = 0.0	10014030
216		D(176) = MD(14)	10014040
217		D(177) = 0.0	10014050
218		D(178) = 0.0	10014060
219	C		10014070
220		IF (D(144)) 101,101,102	10014080
221		101 D(144) = MD(8)	10014090
222	C		10014100
223	C	***GEOMETRY DATA--IF D(240)=0, MOVE DATA**	10014110
224	C	*TEST FOR SURFACE INPUT = 0, D(240-243)*	10014120
225	C	* MOVE D(130) ONLY IF D(242)=0*	10014130
226		102 IF (D(240)) 103,103,100	10014140
227		103 IF (D(242)) 104,104,105	10014150
228		104 D(130) = MD(8)	10014160
229		105 DO 106 1=1,3	10014170
230		IF (D(1+230)) 106,106,107	10014180
231		106 D(1+230) = MD(1+14)	10014190
232		107 IF (1 - 2) 108,108,100	10014200
233		108 IF (D(1+240)) 109,109,100	10014210
234		109 D(1+240) = MD(1+100)	10014220
235		100 CONTINUE	10014230
236		IF (D(243)) 101,101,102	10014240
237		101 D(243) = MD(161)	10014250
238		102 IF (D(244)) 103,103,104	10014260
239		103 D(244) = MD(10)	10014270
240		104 IF (D(245)) 105,105,106	10014280
241		105 D(245) = MD(162)	10014290
242		106 IF (D(246)) 107,107,100	10014300
243		107 D(246) = MD(10)	10014310
244	C		10014320
245	C	*MOVE Y(124) ONLY IF Y(11)=0*	10014330
246		100 IF (D(005)) 100,100,201	10014340
247		100 D(004) = D(2)	10014350
248		DO 200 1=1,11	10014360
249		D(1+004) = MD(1+24)	10014370
250		200 CONTINUE	10014380
251	C		10014390
252	C	*D(100-203)--PIVOT DATA. MOVE WITHOUT TEST FOR CONTROL.*10014400	
253		201 DO 203 1=1,4	10014410
254		IF (D(1+100)) 202,202,203	10014420
255		202 D(1+100) = MD(1+9)	10014430
256		203 CONTINUE	10014440
257		IF(D(107)) 204,204,205	10014441
258		204 D(107) = MD(10C10)	10014442
259		205 IF (D(100)) 204,204,205	10014450
260		204 D(100) = MD(23)	10014460
261	C		10014470
262	C	***P400 DATA. 1. DIST MTS-D(1020).***	10014480
263	C	*2. SURF/CONT--MOVE TO P40 LINE DIST LOC. SET LOC*	10014490
264	C	* D(1/2 1) D/2, AT EA IF LOC DATA NOT SPECIFIED-D(1023)*	10014500
265		205 IF (D(1020)) 206,206,207	10014510
266		206 D(1020) = MD(22)	10014520
267		207 IF (D(1021)) 208,208,209	10014530
268		208 D(1021) = MD(21)	10014540
269		209 IF (D(1023)) 210,210,211	10014550
270		210 D(1020) = 0.0	10014560
271		D(1027) = 0.50	10014570
272		D(1022) = D(2401/D/2)	10014580
273		D(1023) = D(1)	10014590
274		D(1024) = D(127)	10014600

CARD NO	INPUT LISTING	AUTOFLON CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
305	D(1025) = D(127)	10014010	
306	C	10014020	
307	C *** LOAD REFERENCE LINE ***	10014022	
308	211 IF (D(230)) 2112,2112,2114	10014024	
309	2112 D(230) = MD(7)	10014026	
310	C ***FUEL CELL DATA--CONTROL WORD-FUEL DENSITY LOC***	10014030	
311	2114 DO 215 L=1,2	10014040	
312	N = L*5 - 4	10014050	
313	MD(1) = MD(N+30)	10014060	
314	MD(2) = MD(N+30)	10014070	
315	MD(3) = MD(N+30)	10014080	
316	MD(4) = MD(N+30)	10014090	
317	MD(5) = MD(N+30)	10014700	
318	MD(6) = MD(N+30)	10014710	
319	MD(7) = MD(N+37)	10014720	
320	N = L*7 - 6	10014730	
321	IF (D(N+207)) 212,212,215	10014740	
322	212 DO 214 I=1,7	10014750	
323	K = N + I - 1	10014760	
324	IF (D(K+205)) 213,213,214	10014770	
325	213 D(K+205) = MD(1)	10014780	
326	214 CONTINUE	10014790	
327	215 CONTINUE	10014800	
328	C	10014810	
329	C ***EXT MOUNTED CONC ITEMS***	10014820	
330	C ***IF INPUT, SET INPUT Y1STAI TO NEGATIVE***	10014821	
331	C ***INDICATES THAT X1STAI = FUS STA TO SUBR COL**	10014822	
332	C	10014829	
333	C ***TEST ALL COL SETS FOR REGD DATA FOR INERTIAL CALC**	10014830	
334	C *IF SUM OF DATA ITEMS 8 TO 11=0 FOR SET, CHANGE	10014831	
335	C * COL MT TO NEG VALUE TO INDICATE NO INERTIA CALC	10014832	
336	C * TO SUBR COL, AND CALC FTO WTS AND WHT ONLY*	10014833	
337	C	10014839	
338	C *STA 9,6--MACELLES--MOVE M,Y,X,Z,10,11,Y,X,Z1*	10014840	
339	C *STA 7--LDR, MOVE M,Y,X*	10014850	
340	C *STA 1--4--STORES, MOVE M,Y,X*	10014860	
341	C ***CONTROL WORD = LOC(2) OF EACH COL SET***	10014870	
342	C *STA(1-4)--EXT STORES*	10014880	
343	DO 220 L=1,4	10014890	
344	N = L*12 - 11	10014900	
345	N = L*8 - 7	10014910	
346	IF (D(N+1055)) 220,216,220	10014920	
347	216 D(N+1055) = -D(N+70)	10014930	
348	IF (D(N+1054)) 218,217,218	10014940	
349	217 D(N+1054) = MD(N+80)	10014950	
350	218 IF (D(N+1056)) 2190,219,2190	10014960	
351	219 D(N+1056) = MD(N+71)	10014970	
352	2190 IF (D(N+1058) + D(N+1060) + D(N+1061) + D(N+1062) + D(N+1063) + D(N+10675	10014975	
353	(+1064)) 220,219,220	10014976	
354	2191 D(N+1054) = -D(N+1054)	10014977	
355	220 CONTINUE	10014980	
356	C	10014990	
357	C *STA 9,6--MACELLES*	10015000	
358	DO 224 L=1,2	10015010	
359	N = L*12 - 11	10015020	
360	N = L*8 - 7	10015030	
361	IF (D(N+1063)) 224,221,224	10015040	
362	221 MD(7) = -MD(47)	10015045	
363	MD(50) = -MD(50)	10015046	
364	DO 223 I=1,8	10015050	
365	MN = N + I - 1	10015060	
366	MM = N + I - 1	10015070	
367	IF (D(N+1062)) 223,222,223	10015080	
368	222 D(N+1062) = MD(MN+45)	10015090	
369	223 CONTINUE	10015100	
370	C	10015110	
371	C *SET TYPE = 0 FOR INPUT INERTIAS*	10015120	
372	D(N+1066) = 0.0	10015130	
373	224 CONTINUE	10015140	
374	C	10015150	
375	C ***STA 7--LDR**	10015160	

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	HIND AND EFFENWAGE MODULE -
426	IF (D(1926)) 230,225,230		10015170
427	205 D(1926) = -D(163)		10015180
428	IF (D(1927)) 227,226,227		10015190
429	206 D(1927) = D(162)		10015200
430	227 IF (D(1929)) 208,228,229		10015210
431	209 D(1929) = D(164)		10015220
432	209 IF (D(1932) + D(1933) + D(1934) + D(1935) + D(1936) +		10015235
433	D(1937)) 230,2290,230		10015240
434	2290 D(1927) = -D(1927)		10015250
435	230 CONTINUE		
436	C		10015260
437	C ***FLUTTER Q AND Q***		10015360
438	234 IF (D(253)) 235,235,236		10015370
439	236 D(253) = T(1111)		10015380
440	236 IF (D(254)) 237,237,238		10015390
441	237 D(254) = T(1112)		10015400
442	238 IF (D(262)) 239,239,240		10015410
443	239 D(262) = T(1113)		10015420
444	C		10015430
445	240 CONTINUE		10015440
446	C		10015450
447	C		10015500
448	C		10015630
449	C ***PRINT CASE VARIABLE DATA REGION--D(1-2000)***		10015640
450	C ***CHECK BK PRINT OF D ARRAY--IF 3***		10015610
451	900 IF (IP(3)) 901,901,905		10015620
452	901 WRITE (6,902) NCASE, (R(1), I=1, 10)		10015050
453	902 FORMAT(1H) CASE, 13, 81X, 10H** CNTRL - (P(3) **/18X, 8A10/18X, 8A10/)		
454	WRITE (6,903) ND(1), (D(1), I=1, 4)		10015070
455	903 FORMAT (1H) 14, 4E10.0)		10015080
456	904 FORMAT (1H) 14, 8E10.0)		10015090
457	905 FORMAT (1H) 14, 8E10.0)		10015100
458	C		10015110
459	DO 907 N=5,70.5		10015120
460	K = N + ND(4)		10015130
461	908 WRITE (6,909) N, (D(1), I=N, K, 1)		10015150
462	907 CONTINUE		10015160
463	C		10015170
464	N = 80		10015180
465	WRITE (6,904) N, (D(1+70), I=1, 5)		10015190
466	C		10015200
467	DO 909 N=85,2000.5		10015210
468	K = N + ND(4)		10015220
469	909 WRITE (6,905) N, (D(1), I=N, K, 1)		10015240
470	908 CONTINUE		10015250
471	C		10015260
472	C ***PRINT RCD (30) DATA**		10015270
473	WRITE (6,910)		10015280
474	910 FORMAT (1H) 0, // 20H ***SPAL ARRAY. RCD 30***, 60X, 20H ** CNTRL -		10015290
475	IP(3) **/ 80H SPAL)		10015300
476	DO 911 N=1,50.5		10015310
477	K = N + ND(4)		10015320
478	WRITE (6,905) N, (T(1+1000), I=N, K, 1)		10015330
479	911 CONTINUE		10015340
480	C		10015350
481	C		10015360
482	C ***CLEAR MD(1-200) AND T(1001-1100)***		10015370
483	925 DO 900 I=1,100		10015400
484	MD(I) = 0.0		10015410
485	MD(1+100) = 0.0		10015420
486	T(1+1000) = 0.0		10015430
487	T(1+1100) = 0.0		10015440
488	900 CONTINUE		10015450
489	C		10015460
490	C		10015470
491	C		10015480
492	C ***CALL SUBR CASE TO SETUP DESIGN DATA AND GEOMETRY***		10015490
493	930 CALL CASE		10015500
494	C		10015510
495	C		10015520
496	900 RETURN		10015530

05/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
407	END		10010000
408	C		
409	C		
500	C *****SUBROUTINE CASE*****		
501	C **GENERAL DATA INITIALIZATION AND CONTROL**		
502	C		
503	C		
504	C		
505	C SUBROUTINE CASE		CASE0010
506	C		CASE0010
507	C *****CASE EXECUTION PROGRAM*****		CASE0020
508	C CONTROL SECTION I OF WING, HORI., VERT. ANALYSIS		CASE0021
509	C **REVISION--01-19-73--REVISED CONTROL FOR DESIGN DATA CALC.**		CASE0029
510	C		CASE0030
511	C		CASE0040
512	C		CASE0050
513	C		CASE0060
514	C		CASE0070
515	C		CASE0080
516	C		CASE0090
517	C		CASE0110
518	C		CASE0120
519	C		CASE0130
520	C DIMENSION T(620),D(2000),CD(2000),ND(100),DC(100),		CASE0140
521	C 1700H(4),TX(1),DLFL(4),DLUL(4),DOH(4),		CASE0141
522	C 2UPH(2),2PH(2),OPH(2),OPH(2),		CASE0142
523	C 3DLTB(30),		CASE0143
524	C 4DTBK(32),DLPL(10),		CASE0144
525	C 5TXV(500),VC(200),YTC(80)		CASE0149
526	C		CASE0150
527	C EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)),		CASE0160
528	C 11BC(1),D(1401)),(TX(1),T(801)),(VC(1),T(201)),		CASE0161
529	C 21YTC(1),T(351)),		CASE0162
530	C 31700H(1),D(801)),(TFL(1),D(801)),(DLFL(1),D(801)),		CASE0163
531	C 41DOH(1),D(1021)),(DOH10,D(2001)),(DOH10,T(571)),(DLUL,D(1221)),		CASE0164
532	C 51UPH(1),D(2051)),(2PH(1),D(8051)),(OPH(1),T(101)),(OPH(1),T(201)),		CASE0165
533	C 61DLUL(1),D(1001)),(DFUEL,D(931)),(700H,D(1001)),(DOH,D(1051)),		CASE0166
534	C 71DLFL(1),D(1071)),(DOH,D(2071)),(DLDT,D(8081)),		CASE0167
535	C 81FB,ND(871)),		CASE0168
536	C 911,ND(851)),(L10,ND(941))		CASE0169
537	C		CASE0170
538	C EQUIVALENCE (DLH,D(2501)),(DLTB(1),D(8001)),(DLLE,D(1001)),		CASE0180
539	C 11DLTE,D(6021)),(DLH,D(6031)),		CASE0181
540	C 21DLH,D(T(1071)),(DLTB,T(1001)),(DLLE,T(1001)),(DLTE,T(1001)),		CASE0182
541	C 31DOH10,T(1011)),(DOH10,T(1021)),(DOH10,T(1031)),(DOH10,T(1041)),		CASE0183
542	C 41DLPL(1),T(1771)),(DTBK(1),D(10001)),		CASE0184
543	C 51DOH,T(1051))		CASE0185
544	C		CASE0190
545	C **GO IN ORDER**		CASE0200
546	C 1. GENL DATA		CASE0210
547	C 2. GEOMETRY		CASE0220
548	C 3. LE/TE MT/INERTIA		CASE0230
549	C 4. CONTENTS SH/CDL MT/INERTIA		CASE0240
550	C 5. FUEL MT/INERTIA AND INITIAL BOX MT		CASE0250
551	C		CASE0260
552	C		CASE0260
553	C **CLEAR T(1-200)**		CASE0260
554	C DO 100 1=1,200		CASE0270
555	C T(1) = DC(1)		CASE0271
556	C 100 CONTINUE		CASE0272
557	C		CASE0273
558	C **GENL DATA**		CASE0280
559	C DO 102 1=1,4		CASE0290
560	C TFL(1) = TFL(1)*DFUEL		CASE0300
561	C IF (DLFL(1) - D(1)) 101,101,1020		CASE0310
562	C 101 DLFL(1) = DLFL(1)*TFL(1)		CASE0320
563	C GO TO 102		CASE0325
564	C 1020 DLFL(1) = DLFL(1)*DFUEL		CASE0330
565	C 102 CONTINUE		CASE0340
566	C		CASE0340
567	C DOH = 700H - DLFL(1) - DLUL(1)		CASE0350

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINE MODULE -
968	C	****	****
969	C	DO 104 1=1,2	CASE0360
970	C	IF (TODH(1)) 104,104,105	CASE0370
971	C	105 DOW(1) = TODH(1) - DFL(1+1) - DUL(1+1)	CASE0380
972	C	104 CONTINUE	CASE0390
973	C		CASE0400
974	C	LOAD TYPE INDICATOR. 1-GROSS CALC. 2-GROSS INPUT. 3-MET	CASE0410
975	C	L10 = MD(1)	CASE0420
976	C	IF 10(1) - DLD(1) 105,105,107	CASE0430
977	C	105 L10 = L10 + MD(1)	CASE0440
978	C	106 L10 = L10 + MD(1)	CASE0450
979	C		CASE0460
980	C	**TYPE OF SURFACE ID. USED AS DIVISOR.(K).	CASE0470
981	C	**FINAL WT/AV= 2*WT(LB/PAL)/K**	CASE0480
982	C	*FOR WIND/HORI, K=1. FOR VERT K=2 FOR 1 PAL. 2 FOR 2 PAL	CASE0490
983	C	**INPUT ID. 0=WIND, -1=HORI, 1=1,2=VERTIND. PAL(S)/AV**	CASE0500
984	C	107 MWID = D(1)	CASE0510
985	C	IF (MWID) 110,110,108	CASE0520
986	C	108 IF (MWID - D(1)) 110,109,110	CASE0530
987	C	109 MWID = D(2)	CASE0540
988	C		CASE0550
989	C	**LOAD FACTOR DATA**	CASE0560
990	C	110 DO 111 1=1,2	CASE0570
991	C	DPH(1) = ABS(ZPH(1))	CASE0580
992	C	DPH(1) = DC(3)	CASE0590
993	C	UPH(1) = ZPH(1)*ULF	CASE0600
994	C	111 CONTINUE	CASE0610
995	C	END = END	CASE0620
996	C		CASE0630
997	C		CASE0640
998	C	**GEOMETRY. CALC AND FILE VC, YTC **	CASE0650
999	C	**RCD 5--100 WORDS/RCD**	CASE0660
1000	C		CASE0670
1001	C	200 CALL GEOM	CASE0680
1002	C		CASE0690
1003	C		CASE0700
1004	C		CASE0710
1005	C	**RCD 5 = VC(10-130), YTC(1-50)	CASE0720
1006	C		CASE0730
1007	C	***INITIAL YC(1-50) TO BE USED BY CTOT FROM YC(1-130)***	CASE0740
1008	C	CALL WRITING (1,VC(1),200,100)	CASE0750
1009	C		CASE0760
1010	C	***SETUP WT INDEX**	CASE0770
1011	C	DELTA = DELTA	CASE0780
1012	C	IF (DLMB) 210,210,211	CASE0790
1013	C	210 DELTA = D(1)	CASE0800
1014	C	211 DLTH = DLTH(1)	CASE0810
1015	C	IF (DLTH(1)) 212,212,213	CASE0820
1016	C	212 DLTH = D(1)	CASE0830
1017	C	213 DLHT = DLTH*DELTA	CASE0840
1018	C	DELLE = DELLE	CASE0850
1019	C	IF (DELLE) 214,214,215	CASE0860
1020	C	214 DELLE = D(1)	CASE0870
1021	C	215 DLLE = DELLE*DELTA	CASE0880
1022	C	DELTE = DELTE	CASE0890
1023	C	IF (DELTE) 216,216,217	CASE0900
1024	C	216 DELTE = D(1)	CASE0910
1025	C	217 DLTE = DELTE*DELTA	CASE0920
1026	C	DLISC = DLISC	CASE0930
1027	C	IF (DLISC) 218,218,219	CASE0940
1028	C	218 IF (DLISC - D(73)) 220,220,219	CASE0950
1029	C	219 DLISC = D(73)	CASE0960
1030	C	220 DLSC = DLISC*DELTA	CASE0970
1031	C		CASE0980
1032	C	***SETUP DELTA PAL(1)***	CASE0990
1033	C	DO 222 1=1,10	CASE1000
1034	C	DLPAL(1) = D(1)	CASE1010
1035	C	IF (OTDH(1)) 222,222,221	CASE1020
1036	C	221 DLPAL(1) = OTH(1)	CASE1030
1037	C	222 CONTINUE	CASE1040
1038	C		CASE1050

CARD NO	CONTENTS	
030	C	CASE0000
040	C	CASE0000
041	999 RETURN	CASE0000
042	END	CASE0000
043	C	
044	C	
045	C	****SUBROUTINE GEOM****
046	C	***GEOMETRY EVALUATION AND CONTROL***
047	C	
048	C	
049	C	
050	C	SUBROUTINE GEOM
051	C	GEOM0001
052	C	***LIFTING SURFACE GEOMETRY CALC. DATA PROCESSING AND CONTROL****
053	C	GEOM0002
054	C	COMMON T(100)
055	C	COMMON /PRINT/ IP(100)
056	C	GEOM0003
057	C	DIMENSION D(2000), OC(100), TXY(500), TT(20), ND(100)
058	C	1, TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10)
059	C	2, TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10)
060	C	3, TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10)
061	C	4, TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10)
062	C	5, TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10)
063	C	6, TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10)
064	C	7, TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10), TDBX(10)
065	C	GEOM0004
066	C	GEOM0005
067	C	GEOM0006
068	C	GEOM0007
069	C	GEOM0008
070	C	GEOM0009
071	C	GEOM0010
072	C	GEOM0011
073	C	GEOM0012
074	C	GEOM0013
075	C	GEOM0014
076	C	GEOM0015
077	C	GEOM0016
078	C	GEOM0017
079	C	GEOM0018
080	C	GEOM0019
081	C	GEOM0020
082	C	GEOM0021
083	C	GEOM0022
084	C	GEOM0023
085	C	GEOM0024
086	C	GEOM0025
087	C	GEOM0026
088	C	GEOM0027
089	C	GEOM0028
090	C	GEOM0029
091	C	GEOM0030
092	C	GEOM0031
093	C	GEOM0032
094	C	GEOM0033
095	C	GEOM0034
096	C	GEOM0035
097	C	GEOM0036
098	C	GEOM0037
099	C	GEOM0038
100	C	GEOM0039
101	C	GEOM0040
102	C	GEOM0041
103	C	GEOM0042
104	C	GEOM0043
105	C	GEOM0044
106	C	GEOM0045
107	C	GEOM0046
108	C	GEOM0047
109	C	GEOM0048
110	C	GEOM0049
111	C	GEOM0050
112	C	GEOM0051
113	C	GEOM0052
114	C	GEOM0053
115	C	GEOM0054
116	C	GEOM0055
117	C	GEOM0056
118	C	GEOM0057
119	C	GEOM0058
120	C	GEOM0059
121	C	GEOM0060
122	C	GEOM0061
123	C	GEOM0062
124	C	GEOM0063
125	C	GEOM0064
126	C	GEOM0065
127	C	GEOM0066
128	C	GEOM0067
129	C	GEOM0068
130	C	GEOM0069
131	C	GEOM0070
132	C	GEOM0071
133	C	GEOM0072
134	C	GEOM0073
135	C	GEOM0074
136	C	GEOM0075
137	C	GEOM0076
138	C	GEOM0077
139	C	GEOM0078
140	C	GEOM0079
141	C	GEOM0080
142	C	GEOM0081
143	C	GEOM0082
144	C	GEOM0083
145	C	GEOM0084
146	C	GEOM0085
147	C	GEOM0086
148	C	GEOM0087
149	C	GEOM0088
150	C	GEOM0089
151	C	GEOM0090
152	C	GEOM0091
153	C	GEOM0092
154	C	GEOM0093
155	C	GEOM0094
156	C	GEOM0095
157	C	GEOM0096
158	C	GEOM0097
159	C	GEOM0098
160	C	GEOM0099
161	C	GEOM0100
162	C	GEOM0101
163	C	GEOM0102
164	C	GEOM0103
165	C	GEOM0104
166	C	GEOM0105
167	C	GEOM0106
168	C	GEOM0107
169	C	GEOM0108
170	C	GEOM0109
171	C	GEOM0110
172	C	GEOM0111
173	C	GEOM0112
174	C	GEOM0113
175	C	GEOM0114
176	C	GEOM0115
177	C	GEOM0116
178	C	GEOM0117
179	C	GEOM0118
180	C	GEOM0119
181	C	GEOM0120
182	C	GEOM0121
183	C	GEOM0122
184	C	GEOM0123
185	C	GEOM0124
186	C	GEOM0125
187	C	GEOM0126
188	C	GEOM0127
189	C	GEOM0128
190	C	GEOM0129
191	C	GEOM0130
192	C	GEOM0131
193	C	GEOM0132
194	C	GEOM0133
195	C	GEOM0134
196	C	GEOM0135
197	C	GEOM0136
198	C	GEOM0137
199	C	GEOM0138
200	C	GEOM0139
201	C	GEOM0140
202	C	GEOM0141
203	C	GEOM0142
204	C	GEOM0143
205	C	GEOM0144
206	C	GEOM0145
207	C	GEOM0146
208	C	GEOM0147
209	C	GEOM0148
210	C	GEOM0149
211	C	GEOM0150
212	C	GEOM0151
213	C	GEOM0152
214	C	GEOM0153
215	C	GEOM0154
216	C	GEOM0155
217	C	GEOM0156
218	C	GEOM0157
219	C	GEOM0158
220	C	GEOM0159
221	C	GEOM0160
222	C	GEOM0161
223	C	GEOM0162
224	C	GEOM0163
225	C	GEOM0164
226	C	GEOM0165
227	C	GEOM0166
228	C	GEOM0167
229	C	GEOM0168
230	C	GEOM0169
231	C	GEOM0170
232	C	GEOM0171
233	C	GEOM0172
234	C	GEOM0173
235	C	GEOM0174
236	C	GEOM0175
237	C	GEOM0176
238	C	GEOM0177
239	C	GEOM0178
240	C	GEOM0179
241	C	GEOM0180
242	C	GEOM0181
243	C	GEOM0182
244	C	GEOM0183
245	C	GEOM0184
246	C	GEOM0185
247	C	GEOM0186
248	C	GEOM0187
249	C	GEOM0188
250	C	GEOM0189
251	C	GEOM0190
252	C	GEOM0191
253	C	GEOM0192
254	C	GEOM0193
255	C	GEOM0194
256	C	GEOM0195
257	C	GEOM0196
258	C	GEOM0197
259	C	GEOM0198
260	C	GEOM0199
261	C	GEOM0200
262	C	GEOM0201
263	C	GEOM0202
264	C	GEOM0203
265	C	GEOM0204
266	C	GEOM0205
267	C	GEOM0206
268	C	GEOM0207
269	C	GEOM0208
270	C	GEOM0209
271	C	GEOM0210
272	C	GEOM0211
273	C	GEOM0212
274	C	GEOM0213
275	C	GEOM0214
276	C	GEOM0215
277	C	GEOM0216
278	C	GEOM0217
279	C	GEOM0218
280	C	GEOM0219
281	C	GEOM0220
282	C	GEOM0221
283	C	GEOM0222
284	C	GEOM0223
285	C	GEOM0224
286	C	GEOM0225
287	C	GEOM0226
288	C	GEOM0227
289	C	GEOM0228
290	C	GEOM0229
291	C	GEOM0230
292	C	GEOM0231
293	C	GEOM0232
294	C	GEOM0233
295	C	GEOM0234
296	C	GEOM0235
297	C	GEOM0236
298	C	GEOM0237
299	C	GEOM0238
300	C	GEOM0239
301	C	GEOM0240
302	C	GEOM0241
303	C	GEOM0242
304	C	GEOM0243
305	C	GEOM0244
306	C	GEOM0245
307	C	GEOM0246
308	C	GEOM0247
309	C	GEOM0248
310	C	GEOM0249
311	C	GEOM0250
312	C	GEOM0251
313	C	GEOM0252
314	C	GEOM0253
315	C	GEOM0254
316	C	GEOM0255
317	C	GEOM0256
318	C	GEOM0257
319	C	GEOM0258
320	C	GEOM0259
321	C	GEOM0260
322	C	GEOM0261
323	C	GEOM0262
324	C	GEOM0263
325	C	GEOM0264
326	C	GEOM0265
327	C	GEOM0266
328	C	GEOM0267
329	C	GEOM0268
330	C	GEOM0269
331	C	GEOM0270
332	C	GEOM0271
333	C	GEOM0272
334	C	GEOM0273
335	C	GEOM0274
336	C	GEOM0275
337	C	GEOM0276
338	C	GEOM0277
339	C	GEOM0278
340	C	GEOM0279
341	C	GEOM0280
342	C	GEOM0281
343	C	GEOM0282
344	C	GEOM0283
345	C	GEOM0284
346	C	GEOM0285
347	C	GEOM0286
348	C	GEOM0287
349	C	GEOM0288
350	C	GEOM0289
351	C	GEOM0290
352	C	GEOM0291
353	C	GEOM0292
354	C	GEOM0293
355	C	GEOM0294
356	C	GEOM0295
357	C	GEOM0296
358	C	GEOM0297
359	C	GEOM0298
360	C	GEOM0299
361	C	GEOM0300
362	C	GEOM0301
363	C	GEOM0302
364	C	GEOM0303
365	C	GEOM0304
366	C	GEOM0305
367	C	GEOM0306
368	C	GEOM0307
369	C	GEOM0308
370	C	GEOM0309
371	C	GEOM0310
372	C	GEOM0311
373	C	GEOM0312
374	C	GEOM0313
375	C	GEOM0314
376	C	GEOM0315
377	C	GEOM0316
378	C	GEOM0317
379	C	GEOM0318
380	C	GEOM0319
381	C	GEOM0320
382	C	GEOM0321
383	C	GEOM0322
384	C	GEOM0323
385	C	GEOM0324

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
710	2042 IF 1AF10-D1012043,2043,205		GE070085
711	2043 N = AF10		GE070086
712	C		GE070090
713	C	***MOVE AIRFOIL COEFFICIENTS TO WORKING AREA***	GE070091
714	C	**13 ITEMS IN EACH BLOCK**	GE070092
715	C	*1-6=COEFF FOR HEIGHT CALC*	GE070093
716	C	*7-11= COEFF FOR CROSS-SECTIONAL AREA*	GE070094
717	205 N = (N-ND111)*13		GE070100
718	DO 2050 I=1,6		GE070101
719	N = N + /D11		GE070102
720	AFD11 = DAF11		GE070103
721	2050 CONTINUE		GE070104
722	C		GE070110
723	C		GE070120
724	100 TX1(465)=MAREA 3(17)		GE070130
725	TX1(467)=MSAP/D161		GE070140
726	TX1(468)=SORT(TX1(465)*MARE)		GE070150
727	TX1(468)=D11)*MTR		GE070160
728	TX1(468)=SAPPC		GE070170
729	C		GE070180
730	C	BASIC GEOMETRY - B/2, B1/2, CR, CTIP	GE070190
731	101 TX1(8)=TX1(466)/D121		GE070200
732	TX1(7)=OSFUS/D121		GE070210
733	TX1(8)=TX1(8)-TX1(7)		GE070220
734	TX1(25)=TX1(465)/TX1(468)/TX1(8)		GE070230
735	TX1(10)=TX1(25)*MTR		GE070240
736	C		GE070249
737	C	EQUATIONS FOR AERO CHORD AND SHEEP	GE070250
738	C	POSITION WING TO REF CHORD AND FUS STATION	GE070251
739	C	CALC LE, TE EQUATION CONSTS.	GE070252
740	102 TX1(32)=(TX1(10)-TX1(25))/TX1(8)		GE070260
741	TX1(9)=TX1(7)*TX1(32)+TX1(25)		GE070270
742	TX1(53) = COS(TX1(467))		GE070275
743	TX1(52) = SIN(TX1(467))		GE070276
744	TX1(51) = TX1(52)/TX1(53)		GE070277
745	TX1(470) = MYREF		GE070280
746	IF (MYREF - D11) 1020,1020,1021		GE070281
747	1020 TX1(470) = MYREF*TX1(8)		GE070282
748	1021 TX1(471) = MCREF		GE070285
749	IF (MCREF) 1022,1022,1023		GE070286
750	1022 TX1(471) = TX1(470)*TX1(32) + TX1(25)		GE070290
751	1023 TX1(473) = MCREF		GE070291
752	IF (D11) - MCREF) 1024,1024,1025		GE070292
753	1024 TX1(473) = MCREF/TX1(471)		GE070295
754	1025 TX1(472) = TX1(51) + MARE/D14)*D11 - MTR)/(D11) + MTR)*(TX1(468)		GE070300
755	1 - TX1(473))		GE070301
756	TX1(474) = MAREF - TX1(472)*TX1(470)		GE070305
757	TX1(20) = TX1(474) - TX1(473)*TX1(25)		GE070310
758	C		GE070319
759	TX1(54)=TX1(468)*TX1(25)+TX1(20)		GE070320
760	TX1(24)=TX1(20)+TX1(25)		GE070330
761	TX1(436)=TX1(8)*TX1(51)+TX1(54)		GE070340
762	TX1(431)=TX1(436)-TX1(10)+TX1(468)		GE070350
763	TX1(27)=(TX1(431)-TX1(20))/TX1(8)		GE070360
764	TX1(435)=TX1(431)+TX1(10)		GE070370
765	TX1(31)=(TX1(435)-TX1(24))/TX1(8)		GE070380
766	C		GE070388
767	C	***EQUATION .25C***	GE070389
768	TX1(470) = TX1(25)/D14 + TX1(20)		GE070390
769	TX1(474) = TX1(431) + TX1(10)/D14		GE070391
770	TX1(471) = (TX1(474) - TX1(470))/TX1(8)		GE070392
771	TX1(473) = D11/SORT(D11) + TX1(471)*TX1(471))		GE070393
772	TX1(472) = TX1(471)*TX1(473)		GE070394
773	C		GE070399
774	C	DO FS,RS, EA	GE070400
775	103 TT(2)=TX1(8)		GE070410
776	IF (TBYOB) 105,105,104		GE070420
777	104 TT(2)=TBYOB		GE070430
778	IF (TBYOB-D11) 105,105,106		GE070440
779	105 TT(2)=TBYOB*TX1(8)		GE070450
780	106 TT(1)=TBYOB		GE070460

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
701	IF (TBY10-0(1)) 107,108,109		0E070470
702	107 TT(1)=TBY10-TXY10		0E070480
703	C		0E070490
704	100 DO 100 I=1,2		0E070500
705	TT(1+2)=TT(1)+TXY(32)+TXY(25)		0E070510
706	TT(1+4)=TT(1)+TXY(27)+TXY(24)		0E070520
707	100 CONTINUE		0E070530
708	TT(7)=TBY10(1)		0E070540
709	TT(8)=TBY10(3)		0E070550
710	TT(9)=TBY10(2)		0E070560
711	TT(10)=TBY10(1)		0E070570
712	TT(11)=TBY10(3)		0E070580
713	TT(12)=TBY10(2)		0E070590
714	DO 1001 I=1,3		0E070600
715	IF (TT(1+0) .LE. 0.0) TT(1+0)=TT(1+0)		0E070610
716	1001 CONTINUE		0E070620
717	TT(13)=TT(12)-TT(1)		0E070630
718	C		0E070640
719	C EQUATION OF FS,EA,RS		0E070650
800	DO 114 I=1,3		0E070660
801	IF (TT(1+0)-0(1))110,111,111		0E070670
802	110 TT(1+0)=TT(1+0)+TT(3)		0E070680
803	111 TT(1+0)=TT(1+0)+TT(5)		0E070690
804	IF (TT(1+0)-0(1))112,113,113		0E070700
805	112 TT(1+0)=TT(1+0)+TT(4)		0E070710
806	113 TT(1+0)=TT(1+0)+TT(6)		0E070720
807	IF (TBY10(3)) 1130,1130,1131		0E070730
808	1130 TT(1+0)=TT(1+0)		0E070740
809	1131 TXY(1+27)=(TT(1+0)-TT(1+0))/TT(13)		0E070750
810	TXY(1+20)=TT(1+0)-TXY(1+27)+TT(1)		0E070760
811	114 CONTINUE		0E070770
812	C		0E070780
813	C X(01/2), X(1P), SIN, COS		0E070790
814	DO 115 I=1,5		0E070800
815	TXY(1+40)=TXY(7)+TXY(1+20)+TXY(1+10)		0E070810
816	TXY(1+45)=TXY(1+40)		0E070820
817	TXY(1+40)=TXY(8)+TXY(1+20)+TXY(1+10)		0E070830
818	IF (1-0(4)) 1151,1152,1153		0E070840
819	1151 IF (0(11-1)) 1152,1153,1153		0E070850
820	1152 TXY(1+33)=0(3)		0E070860
821	TXY(1+30)=0(1)		0E070870
822	IF (TBY10(3)) 115,115,1153		0E070880
823	1153 TXY(40)=0(1)+TXY(1+20)+TXY(1+10)+0(11)		0E070890
824	TXY(1+30)=0(1)+TXY(40)		0E070900
825	TXY(1+33)=TXY(1+30)+TXY(40)		0E070910
826	115 CONTINUE		0E070920
827	C		0E070930
828	C .5 TBY10, TBY10		0E070940
829	116 TXY(40) = (TXY(21) + TXY(23))/0(2)		0E070950
830	TXY(45) = (TXY(20) + TXY(20))/0(2)		0E070960
831	TXY(47)=0(1)		0E070970
832	IF (TXY(20))117,118,117		0E070980
833	117 TXY(47)=0(1)+TXY(20)		0E070990
834	C		0E071000
835	C TAY10/C		0E071010
836	118 TXY(453)=YBYTC		0E071020
837	TXY(454)=TXY(8)		0E071030
838	IF (YBYTC-0(1)) 119,120,120		0E071040
839	119 TXY(453)=YBYTC+TXY(8)		0E071050
840	120 IF (YBYTC) 123,123,121		0E071060
841	121 TXY(454)=YBYTC		0E071070
842	IF (YBYTC-0(1)) 122,122,123		0E071080
843	122 TXY(454)=YBYTC+TXY(8)		0E071090
844	123 TXY(455)=TC10+(TXY(453)+TXY(32)+TXY(25))		0E071100
845	TXY(456)= (TXY(454)+TXY(32)+TXY(25))/45/0+TC10		0E071110
846	TXY(450)=(TXY(450)-TXY(455))/(TXY(450)-TXY(453))		0E071120
847	TXY(457)=TXY(450)-TXY(453)+TXY(450)		0E071130
848	TXY(451)=TXY(457)+TXY(25)		0E071140
849	TXY(452)=TXY(450)+TXY(10)		0E071150
850	TXY(44)=(TXY(452)-TXY(451))/TXY(8)		0E071160

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EXPENSES MODULE -
CARD NO	CONTENTS		
002	C		0E071000
003	C	SETUP CURVE LE, TE, T/C DATA	0E071070
004	130	CALL GEOMC	0E071080
005	C		0E071090
006	C	EXPONED GEOM	0E071100
007	140	$TXV(1) = (TXV(9) + TXV(10)) / 0.17 + TXV(5)$	0E071110
008		$TXV(3) = TXV(10) / TXV(9)$	0E071120
009		$TXV(2) = TXV(6) / 0.6 + TXV(6) / 0.6 + TXV(1)$	0E071130
010		$TXV(4) = (TXV(7) + TXV(450) + TXV(457)) / TXV(9)$	0E071140
011		$TXV(5) = TXV(452) / TXV(4)$	0E071150
012	C		0E071160
013	C	STRUCT. DATA	0E071170
014	150	$TT(1) = TXV(27) - TXV(47)$	0E071180
015		$TT(2) = TXV(31) - TXV(47)$	0E071190
016		$TXV(40) = TXV(22)$	0E071200
017		$TXV(26) = TXV(25)$	0E071210
018	DO 156 I=1,3		0E071220
019		$TXV(1+4) = TXV(1+5) / TXV(41)$	0E071230
020		IF (ND(1)-1) 151, 152, 151	0E071240
021	C		0E071250
022	C	I=2,3	0E071260
023	151	$TXV(45) = TXV(1+5) + (TXV(26) - TXV(47)) + TXV(22)$	0E071270
024		$TXV(1+10) = TXV(1+7)$	0E071280
025	152	IF (TXV(20)) 153, 155, 153	0E071290
026	153	$TT(3) = TXV(40) - TXV(20)$	0E071300
027		$TT(4) = TXV(40) - TXV(24)$	0E071310
028		$TT(5) = TT(3) / TT(1)$	0E071320
029		$TT(6) = TT(4) / TT(2)$	0E071330
030		$TT(7) = TT(5) + TXV(47) + TXV(40)$	0E071340
031		$TT(8) = TT(6) + TXV(47) + TXV(40)$	0E071350
032		$TT(9) = (TT(8) - TT(7)) / TXV(41)$	0E071360
033	154	IF (ND(1)-1) 154, 155, 154	0E071370
034	154	$TXV(1+10) = TT(9)$	0E071380
035	DO 156 I=1,3		0E071390
036	155	$TXV(26) = TT(9)$	0E071400
037	155	CONTINUE	0E071410
038	C		0E071420
039		$TXV(13) = TXV(4) + TXV(9) / TXV(10)$	0E071430
040		$TXV(14) = TXV(452) + TXV(10) / TXV(10) / TXV(13)$	0E071440
041		$TXV(12) = TXV(10) / TXV(10)$	0E071450
042		$TXV(11) = (TXV(10) + TXV(10)) + TXV(15)$	0E071460
043		$TXV(11) = TXV(15) + TXV(15) / TXV(11) + 0.4$	0E071470
044		$TXV(13) = (TXV(10) - TXV(10)) / TXV(15)$	0E071480
045	C		0E071490
046	C	"BOOK N-SEC GEOMETRY"	0E071500
047	CALL "BOOK"		0E071510
048	C	"DEPTH DATA FOR LE, TE"	0E071520
049	DO 154 N=1,11		0E071530
050		$VC(100) = YTD(N)$	0E071540
051		$VC(101) = YTD(N+1)$	0E071550
052		CALL CAREA	0E071560
053	C	"SAME C(TOTAL), XLE(TOT), XFS AND XRS"	0E071570
054		$TT(1) = VC(102)$	0E071580
055		$TT(2) = VC(103) + 0.005 * TT(1)$	0E071590
056		$TT(3) = VC(104)$	0E071600
057		$TT(4) = VC(107)$	0E071610
058		$YTC(47) = YTD(N)$	0E071620
059	DO 161 I=1,3		0E071630
060		$YTC(40) = TT(1+1)$	0E071640
061	CALL SPAC		0E071650
062		$TT(1+4) = YTC(40)$	0E071660
063	161	CONTINUE	0E071670
064	IF (ND(1)-1) 162, 163, 163		0E071680
065	162	$YTD(N+1) = YTD(N+1)$	0E071690
066		$YTD(N+1) = (TT(5) - TT(6)) / TT(1)$	0E071700
067		$YTD(N+2) = TT(6) - YTD(N+1) + YTD(N+1)$	0E071710
068		$YTD(N+3) = (TT(6) - TT(6)) / TT(1)$	0E071720
069		$YTD(N+20) = TT(6) - YTD(N+1) + YTD(N+1)$	0E071730
070		$YTD(N+30) = (TT(7) - TT(6)) / TT(1)$	0E071740
071		$YTD(N+40) = TT(6) - YTD(N+1) + YTD(N+1)$	0E071750
072	C		0E071760

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WIND AND STRENGTH MODULE -
CARD NO	CONTENTS		
003	C	*****	0071519
004	103 TT(8) = TT(6)		0071520
005	TT(9) = TT(7)		0071521
006	TT(10) = TT(8)		0071522
007	104 CONTINUE		0071523
008	C		0071524
009	C	*****	0071525
010	200 TT(1) = YTB(1)		0071526
011	TT(2) = YTB(11)		0071527
012	DO 201 1=1,2		0071528
013	TT(1+2) = TT(1)*TX(27) + TX(28)		0071529
014	TT(1+4) = TT(1)*TX(31) + TX(32)		0071530
015	TT(1+6) = TT(1)*TX(35) + TX(36)		0071531
016	201 CONTINUE		0071532
017	TT(18) = YTB(1)*TX(32) + TX(33)		0071533
018	TT(11) = YTB(11)*TX(32) + TX(33)		0071534
019	TT(8) = TT(18) + TT(11)		0071535
020	TX(8) = (TT(8) - TX(3) - TX(4) + TX(6))/TT(8)		0071536
021	TX(3) = (TT(7) - TX(3) - TX(4) + TX(6))/TT(8)		0071537
022	C		0071538
023	C	*****	0071539
024	C	*****	0071540
025	EA = (TAKEAW(Y11-Y12)*MLE1-MLE11)/(C11-C1)		0071541
026	202 TX(4) = (TT(2) - TX(1)*TX(28) + TX(3) - TX(4))/(TT(11)-TX(18))		0071542
027	TX(7) = TX(4)*7		0071543
028	C		0071544
029	C		0071545
030	C	*****	0071546
031	CALL VGEOM		0071547
032	C		0071548
033	C	*****	0071549
034	IF (IP(6)) 300,300,300		0071550
035	C		0071551
036	300 CALL PRTO		0071552
037	C		0071553
038	C	*****	0071554
039	200 TX(6) = TX(53)		0071555
040	TX(7) = TX(52)		0071556
041	TX(8) = TX(51)		0071557
042	TX(9) = TX(50)		0071558
043	002 = TX(8)		0071559
044	00102 = TX(7)		0071560
045	TX(16) = TX(16)		0071561
046	TX(37) = TX(16)		0071562
047	TX(20) = TX(32)		0071563
048	TX(52) = TX(25)		0071564
049	TX(88) = TX(28)		0071565
050	TX(75) = TX(38)		0071566
051	TX(76) = TX(41)		0071567
052	0002 = TX(17)		0071568
053	TX(82) = TX(6)*0(2)		0071569
054	TX(83) = TX(15)		0071570
055	TX(88) = TX(9)		0071571
056	TX(89) = TX(8)		0071572
057	TX(83) = TX(4)		0071573
058	TX(84) = TX(3)		0071574
059	TX(85) = TX(5)		0071575
060	TX(81) = TX(2)		0071576
061	TX(88) = TX(1)*0(17)		0071577
062	TX(78) = 0(1) + MTR		0071578
063	TX(77) = 0(1) - MTR		0071579
064	TX(78) = 0(1) - MTR*YC(118)/YC(117)		0071580
065	TX(78) = 0(1) - TX(84)		0071581
066	TX(84) = 0(1) + TX(84)		0071582
067	TX(84) = TX(84)*TX(88)		0071583
068	TX(88) = 0(1) - TX(84)		0071584
069	C		0071585
070	C	*****	0071586
071	203 TX(3) = 0(4)*MTR*(TX(77)/TX(78))		0071587
072	TX(88) = SORT(0(1) + TX(88)*TX(88))		0071588
073	TX(23) = TX(3)*TX(75)*TX(76)		0071589

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08/18/74      INPUT LISTING      AUTOFLON CHART SET - SHEEP      MING AND EXPENSE MODULE -

CARD NO      ****      CONTENTS      ****

004          T(14) = D(11)/T(100)*D(11) + T(14)*T(23)*D(11) + T(14) - D(11)*T(100)*T(100)
006          I(2311)
006          T(105) = TXY(110)
007          C
008          C      ***TIME BASIC EQUATION DATA***
009          210 DO 217 I=1,5
010          TAND(1) = TXY(1+26)
011          CCLD(1) = TXY(1+19)
012          SIND(1) = TXY(1+33)
013          COSD(1) = TXY(1+30)
014          217 CONTINUE
015          COTE4 = TXY(47)
016          TAND(7) = TXY(32)
017          TAND(8) = TXY(33)
018          CCLD(7) = TXY(26)
019          CCLD(8) = TXY(26)
020          TAND(9) = TXY(40)
021          CCLD(9) = TXY(50)
022          TAND(6) = TXY(47)
023          CCLD(6) = TXY(47)
024          SIND(6) = TXY(47)
025          COSD(6) = TXY(47)
026          C
027          C      ***CALC ARC CENTROID OF BOX AT EXPOSED FAC OF TRAP. MING***
028          C      *BOX WIDTH BASED ON EQUIV. FS/RS. SETUP FS/RS CONSTANTS*
029          WACP = TXY(8)/D(3)*T(70) + T(101)/T(70) + D(102)
030          WACP = WACP*TAND(3) + CCLD(3)
031          WACP = WACP*TAND(7) + CCLD(7)
032          TXY(20) = TAND(1) - T(3)*T(42)
033          TXY(20) = TAND(1) - T(3)*T(43)
034          TXY(21) = CCLD(1) + T(42)*CCLD(7)
035          TXY(23) = CCLD(1) + T(43)*CCLD(7)
036          C
037          C      *CAL STA FOR EQUIV EA*
038          TXY(22) = TXY(20) + T(44)*CCLD(7)
039          C
040          C      *CALC BOX DMX,AREA,BANE WITH ASBX,DMX,CAERO SUB*
041          TT(11) = WACP
042          TT(12) = WACP
043          CALL ASBXC
044          C
045          C      *DMX= MAX SECTION DEPTH. AC=DME/DMX**
046          DMX = TTC(10)
047          AC = TT(15)/TTC(10)
048          C
049          C      ***IRS-FS) NORMAL BASED ON EQUIV. FS,RS,EA FOR GJAL***
050          C      **IRS - FS) = BOX WIDTH/AERO CHORD AT EA**
051          T(71) = TT(14)/TTC(10)
052          C
053          C      *BANE AT 01/2**
054          TT(11) = TXY(7)
055          TT(12) = TXY(7)*TXY(20) + TXY(22)
056          CALL ASBXC
057          T(4) = TT(15)
058          C
059          C      BANE TO DATA
060          210 T(1) = WAREA/AAWID
061          T(2) = TXY(1)/AAWID
062          T(17) = (TXY(8) - TTC(111)/D(17)*TXY(10) + TTC(101)/AAWID
063          C
064          C      ***CBEC AREA. 90 FT/HP**
065          T(5) = TTC(23)
066          T(102) = TTC(114)
067          T(105) = T(5)*D(2)/D(17)*TXY(7)/AAWID
068          IF (T(105)) 210,210,200
069          210 T(105) = D(1)
070          C
071          C
072          C      *TIME INDIVIDUAL BOX PUL AREA 90.FT./SIDE,TIP TO ROOT*
073          200 DO 201 I=1,10
074          N = ND(11) - 1

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05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINE DATA MODULE -
CARD NO	****	COMMENTS	****
1005	TIME(26) = YTB(1+21)		GE070050
1006	201 CONTINUE		GE070060
1007	C		GE070070
1008	C ***NAME BOX GEOMETRY DATA TO TIREGION***		GE070070
1009	214 GO 215 I=1,11		GE070080
1070	VEA(1) = VE(1)		GE070090
1071	VEP(1) = YTB(1)		GE070100
1072	VEP(1) = YTB(1+11)		GE070110
1073	VEH(1) = YTB(1+23)		GE070120
1074	VED(1) = YTB(1+35)		GE070130
1075	VEF(1) = VLE(1+24)		GE070140
1076	VEG(1) = VTE(1+24)		GE070150
1077	VECA(1) = YTB(1+59)		GE070160
1078	VRT(1) = 8002 - VEA(1)		GE070170
1079	215 CONTINUE		GE070180
1080	VED(12) = YTB(12)		GE070190
1081	VEH(12) = YTB(12)		GE070200
1082	VEF(12) = VLE(24)		GE070210
1083	VEG(12) = VTE(24)		GE070220
1084	C		GE070230
1085	C ***CALC OBJ. CONST. FOR DIN, .5 T.BOX, DELTA LAMBDA X***		GE070240
1086	TANG = TRY(46)		GE070250
1087	COLS = TRY(46)		GE070260
1088	TANX = BC(3)		GE070270
1089	COLX = BC(3)		GE070280
1090	IF (TANG - TANX(3)) 202,203,202		GE070290
1091	202 IF (TANG(3)) 204,203,204		GE070300
1092	203 TT(2) = VEP(11) - VEP(11)*TANG - COLS		GE070310
1093	TT(1) = VEP(11) - VEP(11)*TANG - COLS		GE070320
1094	GO TO 205		GE070330
1095	204 TT(3) = VEP(1)		GE070340
1096	TT(5) = VEP(1)		GE070350
1097	TT(4) = VEP(11)		GE070360
1098	TT(6) = VEP(11)		GE070370
1099	GO 206 I=1,2		GE070380
1100	TT(7) = TT(1+4) - TT(1+2)*COTEA		GE070390
1101	TT(1) = ((TT(7)-COLS)/(TANG-COTEA) - TT(1+2))/SIND(3)		GE070400
1102	205 CONTINUE		GE070410
1103	206 COLX = TT(1)		GE070420
1104	TANX = (TT(2) - TT(1))/(VEA(11) - VEA(1))		GE070430
1105	C		GE070440
1106	207 TT(1) = MDIN*(1+10)		GE070450
1107	TT(2) = COS(TT(1))		GE070460
1108	TT(3) = SIN(TT(1))		GE070470
1109	TANX = TT(3)/TT(2)		GE070480
1110	COLX = 2DIN		GE070490
1111	C		GE070500
1112	C ***NAME GEOM. T/C DATA***		GE070510
1113	T(66) = VC(126)		GE070520
1114	T(67) = VC(123)		GE070530
1115	T(18) = VC(116)		GE070540
1116	T(11) = VC(117)		GE070550
1117	T(68) = T(11)/T(18)		GE070560
1118	C		GE070570
1119	C		GE070580
1120	C ***AREA OF BOX***		GE070590
1121	T(24) = ((YTB(11) + YTB(1))*(TRY(26) - TRY(26)) + 0.12)*((TRY(23) - TRY(23)))/(YTB(11) + YTB(1))		GE070600
1122	1 TRY(23))/(YTB(11) + YTB(1))		GE070610
1123	C		GE070620
1124	C		GE070630
1125	C ***SETUP GEOMETRY DATA FOR FLUTTER ANALYSIS***		GE070640
1126	C ***TOLJ(1-100) FOR NOMINAL POSITION DATA***		GE070650
1127	C ***TOLJ(101-200) FOR SHEET POSITION. SETUP BY VROG***		GE070660
1128	C ***NAME TOLJ(1-200) ON PCB 10 FOR SUBR GJCAL***		GE070670
1129	C ***INITIAL SETUP FOR BASIC GEOMETRY***		GE070680
1130	400 TOLJ(1) = WAREA		GE070690
1131	TOLJ(2) = WMR		GE070700
1132	TOLJ(3) = WTR		GE070710
1133	TOLJ(4) = WMP		GE070720
1134	TOLJ(5) = TRY(46)		GE070730
1135	TOLJ(6) = TRY(462)/TRY(461)		GE070740

CARD NO	****	CONTENTS	****
1135		TSJ(7) = 00FUS	0E073520
1137	C		0E073530
1138		TSJ(8) = T(81)	0E073540
1139		TSJ(9) = T(85)	0E073550
1140		TSJ(10) = T(83)	0E073560
1141		TSJ(11) = T(15)	0E073570
1142		TSJ(12) = T(88)	0E073580
1143		TSJ(13) = T(14)	0E073590
1144		TSJ(14) = T(84)	0E073700
1145		TSJ(15) = T(83)	0E073710
1146		TSJ(16) = T(88)	0E073720
1147		TSJ(17) = T(14)	0E073730
1148		TSJ(18) = T(71)	0E073740
1149		TSJ(19) = T(75)	0E073750
1150		TSJ(20) = T(78)	0E073760
1151		TSJ(21) = T(142)	0E073770
1152		TSJ(22) = T(143)	0E073780
1153		TSJ(23) = T(144)	0E073790
1154		TSJ(24) = T(113)	0E073800
1155		TSJ(25) = T(145)	0E073810
1156		TSJ(26) = T(151)	0E073820
1157		TSJ(71) = WFK	0E073830
1158		TSJ(72) = WFB	0E073840
1159		TSJ(73) = WFB	0E073850
1160	C		0E073860
1161	C	***SHEEP WING DATA***	0E073870
1162		TSJ(113) = TSJ(13)	0E073880
1163		TSJ(124) = TSJ(24)	0E073890
1164	C		0E073900
1165	C	***FLUTTER DESIGN TOP***	0E073910
1166		TSJ(74) = 00PPBJ	0E073920
1167		IF (00PPBJ) 401,401,402	0E073930
1168	401	TSJ(74) = DWT1	0E073940
1169	402	TSJ(75) = 0JFAC	0E073950
1170		TSJ(76) = 0JVI	0E073960
1171		TSJ(77) = 0JVO	0E073970
1172	C		0E073980
1173	C	***STATION DATA***	0E073990
1174		DO 403 1=1,11	0E074000
1175		TSJ(1+26) = T(1+118)	0E074010
1176		TSJ(1+37) = T(1+941)	0E074020
1177		TSJ(1+48) = T(1+529)	0E074030
1178		TSJ(1+59) = T(1+58)	0E074040
1179		TSJ(1+77) = T(1+518)	0E074050
1180		TSJ(1+88) = T(1+488)	0E074060
1181	403	CONTINUE	0E074070
1182	C		0E074080
1183	C	***TEST FOR FLUTTER ANALYSIS GEOMETRY DATA***	0E074090
1184		IF (0J5) 430,430,410	0E074100
1185	C		0E074110
1186	C	***RECALC GEOM DATA BASED ON INPUT CONTROL DATA***	0E074120
1187	410	TSJ(1) = 0J5	0E074130
1188		IF (0JMR) 412,412,411	0E074140
1189	411	TSJ(2) = 0JMR	0E074150
1190	412	IF (0JTR) 414,414,413	0E074160
1191	413	TSJ(3) = 0JTR	0E074170
1192	414	IF (0J51) 416,416,415	0E074180
1193	415	TSJ(7) = 0J51	0E074190
1194		TSJ(11) = TSJ(7)+0(2)	0E074200
1195	416	IF (0JTC) 418,418,417	0E074210
1196	417	TSJ(8) = 0JTC	0E074220
1197		TSJ(6) = 0J516	0E074230
1198	418	TT(1) = 0(16)+0(8)+TSJ(1)+TSJ(2)	0E074240
1199		TT(2) = TSJ(1)/TT(1)+0(17)+0(1) + TSJ(3)	0E074250
1200		TT(3) = TSJ(3)+TT(2)	0E074260
1201		TSJ(9) = TT(1) - TSJ(11)	0E074270
1202		TSJ(10) = TSJ(9)/TSJ(20)	0E074280
1203		TSJ(8) = TT(1)/TSJ(20)	0E074290
1204		TT(4) = (TT(3) - TT(2))/TT(1)	0E074300
1205		TSJ(12) = TSJ(11)+TT(4) + TT(2)	0E074310
1206		TSJ(14) = TT(3)/TSJ(12)	0E074320

CARD NO	****	CONTENTS	****
1207		$TT(5) = D(4)/TGJ(2)*D(1) - TGJ(3)/D(1) + TGJ(3)$	GE074290
1208		$TT(6) = TT(5)*TGJ(9)+TGJ(20)$	GE074300
1209		$TGJ(17) = D(1)/(TT(6)*D(1) + T(4)*TT(6)*D(1) + (T(4) - D(1))$	GE074310
1210		$TT(6))$	GE074320
1211		$TT(7) = TT(2)+TGJ(5)$	GE074330
1212		$TT(8) = TT(3)+TGJ(5)+TGJ(6)$	GE074340
1213		$TT(8) = TGJ(11)/TT(1)*(TT(8) - TT(7)) + TT(7)$	GE074350
1214		$TGJ(15) = TT(8)/TGJ(12)$	GE074360
1215		$TGJ(16) = TT(8)/TT(3)/TGJ(15)$	GE074370
1216		$TT(10) = TT(7)*AC$	GE074380
1217		$TT(11) = TT(8)*AC$	GE074390
1218		$TGJ(13) = TT(8)*AC$	GE074400
1219		$TT(12) = (TT(11) - TT(10))/TT(1)$	GE074410
1220		$DO 419 I=1,11$	GE074420
1221		$TGJ(140) = YBP(1)*TT(12) + TT(10)$	GE074430
1222		$TGJ(145) = YBP(1)*TT(4) + TT(2)$	GE074440
1223		$TGJ(140) = TGJ(140)$	GE074445
1224	419	CONTINUE	GE074450
1225	C		GE074459
1226		IF (D(140)) 420,430,420	GE074460
1227	420	$TGJ(113) = TGJ(13)$	GE074465
1228		$TGJ(116) = TGJ(116)+TGJ(115)$	GE074461
1229		$TGJ(115) = TT(8)/TGJ(112)$	GE074462
1230		$TGJ(116) = TGJ(116)/TGJ(115)$	GE074463
1231	C		GE074469
1232	C	***SAVE TGJ ARRAY ON RCD 10***	GE074470
1233	430	CALL WRITHS(1,TGJ(1),200,10)	GE074480
1234	C		GE074490
1235	C		
1236	C	***PRINT ON IP(7)***	
1237		IF (IP(7)) 431,431,499	
1238	431	WRITE (6,4300)	
1239	4300	FORMAT (44H) ***GEOM SUBR. FLUTTER GEOMETRY DATA***,40X,20H**	
1240		1GEOM - IP(7) ** ,END TGJ	
1241	4301	FORMAT (3X,13,5E16.8)	
1242	4304	FORMAT (8H TT)	
1243	C		
1244		DO 4302 N=1,200.5	
1245		J = N + ND(4)	
1246		WRITE (6,4301)N,(TGJ(1),1-N,J,1)	
1247	4302	CONTINUE	
1248	C		
1249		WRITE (6,4304)	
1250		DO 4303 N=1,15.5	
1251		J = N + ND(4)	
1252		WRITE (6,4301)N,(TT(1),1-N,J,1)	
1253	4303	CONTINUE	
1254	C		
1255	C		GE079800
1256	499	RETURN	GE079900
1257	END		GE079999
1258	*****		
1259	C		
1260	C	*****SUBROUTINE GEOM*****	
1261	C	***PLANFORM GEOMETRY AND T/C DATA SETUP***	
1262	C		
1263	*****		
1264	C		
1265		SUBROUTINE GEOM	GE0C0010
1266	C		GE0C0011
1267	C	***LE, TE, T/C AND AIRFOIL GEOMETRY DATA SETUP SUBR***	GE0C0020
1268	C		GE0C0029
1269		COMMON T(6320)	GE0C0030
1270		COMMON /IPRINT/ IP(80)	GE0C0031
1271	C		GE0C0039
1272		DIMENSION D(2080), CD(2080), ND(100), DC(100)	GE0C0040
1273		1. TXV(500), YTC(80), YC(150)	GE0C0050
1274		2. DAF(500), DLE(23), DTE(23), DTC(22), AFN(4), YAF(4)	GE0C0060
1275		3. TAF(350)	GE0C0070
1276	C		GE0C0079
1277		EQUIVALENCE (D(1),T(2061)), (CD(1),T(4121)), (ND(1),T(6121))	GE0C0080

05/10/79

INPUT LISTING

AUTOFLOW CHART SET - SHEEP

HIND AND EXPENDITURE MODULE -

CARD NO	****	CONTENTS	****
1270		1. (AF10,D1143), (YAF11,D1145), (AFM11,D1140)	GE0C0000
1270		2. (BLE11,D1180), (DTE11,D1200)	GE0C0100
1280		3. (DTE11,D1273), (DC11,D1140)	GE0C0110
1281		4. (VTC11,T1201), (VTC11,T1251), (TAF11,T1431)	GE0C0120
1282		5. (TXV11,T1001), (DAF11,T1140)	GE0C0130
1283		6. (NAF,ND167)	GE0C0140
1284	C		GE0C0140
1285	C		GE070070
1286	C		GE070000
1287	C	SETUP VLE, VTE, VT/C, PER CENT B/2 OR B.P.	GE070000
1288	100	VTC(11)=DC(3)	GE070100
1289		VC(11)=DC(3)	GE070110
1290		VC(4)=DC(3)	GE070120
1291		DO 101 I=1,11	GE070130
1292		VTC(11)=TXV(0)	GE070140
1293		VC(11)=TXV(0)	GE070150
1294		VC(14)=TXV(0)	GE070160
1295	101	CONTINUE	GE070170
1296	C		GE070180
1297		DO 102 I=1,12	GE070190
1298		VC(112)=VC(11)+TXV(27)+TXV(20)	GE070200
1299		VC(140)=VC(140)+TXV(31)+TXV(24)	GE070210
1300	102	CONTINUE	GE070220
1301	C		GE070230
1302	C	SETUP LE DATA. POINT 1 0- BK, 1-7.5, 2 - PER CENT C11	GE070240
1303		VC(107)=BLE(13)	GE070250
1304	C		GE070260
1305		IF (011)-BLE(12)=103,105,104	GE070270
1306	C	PER CENT CHORD	GE070280
1307	103	VC(107)=BLE(13)+TXV(25)	GE070290
1308	104	VC(107)=VC(13)+VC(107)	GE070300
1309	105	VC(13)=VC(107)	GE070310
1310	C		GE070320
1311	C	SETUP POINTS 2-11. Y AND X	GE070330
1312	110	DO 110 I=1,10	GE070340
1313		IF (BLE(11)=120,120,111	GE070350
1314	111	VC(11)=BLE(11)	GE070360
1315		IF (VC(11)-0(1)=112,112,113	GE070370
1316	112	VC(11)=VC(11)+TXV(0)	GE070380
1317	113	VC(113)=VC(11)+TXV(27)+TXV(20)	GE070390
1318		VC(107)=BLE(113)	GE070400
1319		IF (011)-BLE(12)=110,110,117	GE070410
1320	116	VC(107)=VC(107)+VC(11)+TXV(32)+TXV(25)	GE070420
1321	117	VC(107)=VC(113)+VC(107)	GE070430
1322	118	VC(113)=VC(107)	GE070440
1323	119	CONTINUE	GE070450
1324	C		GE070460
1325	C	COMPUTE TABLE(1), BLE(1)	GE070470
1326	120	DO 120 I=1,11	GE070480
1327		VC(140)=TXV(27)	GE070490
1328		VC(135)=TXV(20)	GE070500
1329		VC(107)=VC(11)+VC(1)	GE070510
1330		IF (VC(107)=120,120,121	GE070520
1331	121	VC(140)=(VC(113)-VC(112))/VC(107)	GE070530
1332		VC(135)=VC(112)-VC(11)+VC(140)	GE070540
1333	120	CONTINUE	GE070550
1334	C		GE070560
1335	C	DO TE	GE070570
1336	130	VC(107)=DTE(13)	GE070580
1337		IF (011)-DTE(12)=131,133,132	GE070590
1338	131	VC(107)=DTE(13)+TXV(25)	GE070600
1339	132	VC(107)=VC(107)+VC(00)	GE070610
1340	133	VC(00)=VC(107)	GE070620
1341	C	TE POINTS 2 TO 11.	GE070630
1342	134	DO 130 I=1,10	GE070640
1343		IF (DTE(11)=140,140,135	GE070650
1344	135	VC(147)=DTE(11)	GE070660
1345		IF (VC(147)-0(1)=136,136,137	GE070670
1346	136	VC(147)=VC(147)+TXV(0)	GE070680
1347	137	VC(140)=VC(147)+TXV(31)+TXV(24)	GE070690
1348	C	END(TE)	GE070700

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEET	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1349	YC(107)=OTC(1+13)		0E070710
1350	IF (OTC(1)-OTC(12))130,1301,1300		0E070720
1351	130 YC(107)=YC(107)+YC(1+47)+TX(132)+TX(251)		0E070730
1352	1300 YC(107)=YC(107)+YC(1+50)		0E070740
1353	1301 YC(1+50)=YC(107)		0E070750
1354	130 CONTINUE		0E070760
1355	C		0E070770
1356	C TANTE(1), CTE(1)		0E070780
1357	140 DO 140 I=1,11		0E070790
1358	YC(1+70)=TX(131)		0E070800
1359	YC(1+81)=TX(124)		0E070810
1360	YC(107)=YC(1+47)+YC(1+48)		0E070820
1361	IF (YC(107)140,140,141)		0E070830
1362	141 YC(1+70)=(YC(1+50)+YC(1+50))/YC(107)		0E070840
1363	YC(1+81)=YC(1+50)+YC(1+48)+YC(1+70)		0E070850
1364	140 CONTINUE		0E070860
1365	C		0E070870
1366	C MOVE T/C DATA		0E070880
1367	DO 1500 I=1,9		0E070890
1368	YC(1+15)=TX(1+50)		0E070900
1369	1500 CONTINUE		0E070910
1370	C		0E070920
1371	C SETUP T/C DATA		0E070930
1372	150 YTC(53)=YC(122)		0E070940
1373	YTC(54)=YC(123)		0E070950
1374	YTC(52)=YC(124)		0E070960
1375	YTC(13)=YTC(53)		0E070970
1376	DO 151 I=1,11		0E070980
1377	YTC(1+13)=YTC(54)		0E070990
1378	YTC(1+24)=YTC(52)		0E071000
1379	YTC(1+35)=YTC(53)		0E071010
1380	151 CONTINUE		0E071020
1381	C TEST T/C(1) FOR ZERO		0E071030
1382	IF (OTC(12))100,200,152		0E071040
1383	152 YTC(13)=OTC(12)+YC(50)+YC(131)		0E071050
1384	C		0E071060
1385	C DO PTS 2 - 11		0E071070
1386	DO 150 I=1,10		0E071100
1387	IF (OTC(1+1))100,100,153		0E071110
1388	153 YTC(1+1)=OTC(1+1)		0E071120
1389	IF (OTC(1+1)-0)154,154,155		0E071130
1390	154 YTC(1+1)=OTC(1+1)+TX(10)		0E071140
1391	155 YC(100)=YTC(1+1)		0E071150
1392	YC(101)=YTC(1+1)+TX(20)+TX(22)		0E071160
1393	C		0E071170
1394	CALL CAERO		0E071171
1395	C		0E071171
1396	IF (OTC(1+12))156,156,157		0E071180
1397	156 YC(107)=YTC(1+1)+YTC(52)+YTC(53)		0E071190
1398	YC(100)=YTC(1+1)+TX(132)+TX(251)		0E071200
1399	YC(100)=YC(107)/YC(100)		0E071210
1400	YTC(1+13)=YC(102)+YC(100)		0E071220
1401	GO TO 150		0E071230
1402	C		0E071240
1403	157 YTC(1+13)=YC(102)+OTC(1+12)		0E071250
1404	150 CONTINUE		0E071260
1405	C		0E071270
1406	C DO TAN(DMAX), C(DMAX)		0E071280
1407	DO 160 I=1,11		0E071290
1408	YTC(55)=YTC(1+1)+YTC(1)		0E071300
1409	IF (YTC(55))100,100,161		0E071310
1410	161 YTC(1+24)=(YTC(1+13)+YTC(1+12))/YTC(55)		0E071320
1411	YTC(1+35)=YTC(1+12)+YTC(1+24)+YTC(1)		0E071330
1412	160 CONTINUE		0E071340
1413	C		0E071350
1414	C		0E071360
1415	C ***PRINT OF YC, YTC ARRAYS***		0E071370
1416	200 IF (IP(4)) 2000,2000,210		0E071375
1417	2000 WRITE (6,201)		0E071380
1418	201 FORMAT (9H YC,6X,10H** GEOME - IP(4) **)		0E071380
1419	202 FORMAT (1H 15,5E16.7)		0E071400

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MIND AND EXPANDED MODULE -
CARD NO	CONTENTS		
1420	DO 203 J=1,140.5		GE071410
1421	K=J-4		GE071420
1422	WRITE (6,202)J,(YC(1),1-J,K,1)		GE071430
1423	203 CONTINUE		GE071440
1424	C YTC REGION		GE071450
1425	WRITE (6,204)		GE071460
1426	204 FORMAT (8H YTC)		GE071470
1427	DO 205 J=1,30.5		GE071480
1428	K=J-4		GE071490
1429	WRITE (6,202)J,(YTC(1),1-J,K,1)		GE071500
1430	205 CONTINUE		GE071510
1431	C		GE071520
1432	C		GE071530
1433	C *** SETUP AIRFOIL DATA FOR DMX SUBROUTINE		GE0C1540
1434	C **TEST AF ID FOR TYPE OF AIRFOIL**		GE0C1550
1435	C *IF ID IS GREATER THAN 0, USE DATA BANK Z=X/C*		GE0C1561
1436	C *PROG WILL TEST YAF AND AFN DATA SETS TO DETERMINE LOC		GE0C1562
1437	C *AND AIRFOIL DATA SET IN THE DATA BANK, (1-5) SETS*		GE0C1564
1438	C *AFN=1-5, IF=0 OR GREATER THAN 0, PROG. USES SET 1.*		GE0C1565
1439	C		GE0C1566
1440	210 IF ID(0) - AFID) 211,200,200		GE0C1568
1441	C		GE0C1569
1442	C CLEAR YAF REGION. SETUP Y CONTROL TABLE.		GE0C1570
1443	211 DO 212 I=1,350		GE0C1580
1444	YAF(I) = 0C(3)		GE0C1580
1445	212 CONTINUE		GE0C1580
1446	DO 213 I=2,11		GE0C1610
1447	YAF(I) = TX(I0)		GE0C1620
1448	213 CONTINUE		GE0C1630
1449	C		GE0C1640
1450	C *** SETUP TO MOVE DATA. TEST Y(AF(I)). YAF(I) IS NOT ZERO. ***		GE0C1650
1451	C		GE0C1650
1452	C ***MOVE X/C DATA FROM DAF(101-150) TO DAF(1-50)***		GE0C1650
1453	C *DAF=NO OF X/C POINTS*		GE0C1650
1454	C *X/C SET=LOC(1)=NO PTS. 2-40=X/C FOR 40 AF Z ORDINATES*		GE0C1651
1455	C *AF Z SET=LOC(1)=AF ID. 2-40=Z ORD. 50=MAX Z*		GE0C1651
1456	214 DAF = DAF(100)		GE0C1651
1457	DO 2146 I = 1,40		GE0C1652
1458	DAF(I) = DAF(1+100)		GE0C1653
1459	2146 CONTINUE		GE0C1654
1460	C		GE0C1655
1461	I = NO(1)		GE0C1670
1462	2141 IF (YAF(I)) 215,215,216		GE0C1680
1463	C		GE0C1680
1464	C *TEST Y(I)=0. IF ZERO, ASSUME Y(I)=2 INCH ORD OF CL*		GE0C1680
1465	215 IF (I - NO(1)) 2150,2150,2150		GE0C1680
1466	2150 YAF(2) = D(2)		GE0C1681
1467	GO TO 210		GE0C1682
1468	C		GE0C1680
1469	216 YAF(1+1) = YAF(1)		GE0C1700
1470	IF(YAF(1)-D(1)) 217,217,210		GE0C1710
1471	217 YAF(1+1) = YAF(1)+TX(I0)		GE0C1720
1472	218 H = AFN(1)		GE0C1730
1473	YAF(1+0) = YAF(1+1) - YAF(1)		GE0C1740
1474	C		GE0C1740
1475	C *TEST FOR AF NO. IF 0, OR GREATER THAN 0, USE AF SET 1*		GE0C1750
1476	N = 150		GE0C1760
1477	IF (H) 202,202,210		GE0C1770
1478	210 IF (H - NO(0)) 221,221,222		GE0C1780
1479	C		GE0C1780
1480	221 N = H*50 + 100		GE0C1800
1481	222 YAF(12) = DAF(N+40)		GE0C1810
1482	IF(YAF(12)) 223,223,224		GE0C1820
1483	223 YAF(12) = D(1)		GE0C1830
1484	224 L = 1*50 + 50		GE0C1840
1485	C		GE0C1840
1486	C *MOVE AF DATA BLOCK		GE0C1850
1487	225 DO 226 J=1,40		GE0C1860
1488	L = L + NO(1)		GE0C1870
1489	N = N + NO(1)		GE0C1880
1490	YAF(L) = DAF(N)/YAF(12)		GE0C1890

08/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MIND AND EXPENDITURE MODULE -
CARD NO	CONTENTS		
1491	805 CONTINUE		GE0C1800
1492	C		GE0C1809
1493	C TEST FOR NEXT N		GE0C1810
1494	I = I + ND(1)		GE0C1820
1495	IF (ND(5) - 1) 240,240,2141		GE0C1830
1496	C		GE0C1830
1497	C SET BLOCK 5 = BLOCK 5		GE0C1840
1498	240 TAF(1+5) = TAF(1+1) - TAF(1)		GE0C1850
1499	DO 241 1=1,40		GE0C1860
1500	TAF(1+200) = TAF(1+250)		GE0C1870
1501	241 CONTINUE		GE0C1880
1502	GO TO 800		GE0C1890
1503	C		GE0C1900
1504	C *YAF(12,3 OR 4)=0. MOVE BLOCK(1-1) TO BLOCK(1)*		GE0C2000
1505	250 N = 1*50		GE0C2010
1506	TAF(1+5) = TAF(1+1) - TAF(1)		GE0C2020
1507	DO 251 1=1,40		GE0C2030
1508	N = N + ND(1)		GE0C2040
1509	L = N + 50		GE0C2050
1510	TAF(L) = TAF(N)		GE0C2060
1511	251 CONTINUE		GE0C2070
1512	C		GE0C2080
1513	C SET BLOCK 1 TO BLOCK 2		GE0C2090
1514	260 DO 261 1=1,40		GE0C2100
1515	TAF(1+50) = TAF(1+100)		GE0C2110
1516	261 CONTINUE		GE0C2120
1517	C		GE0C2130
1518	C ***BK PRINT OF AIRFOIL DATA***		GE0C2131
1519	IF (1P(4)) 270,270,200		GE0C2140
1520	C		GE0C2150
1521	270 WRITE(6,271) N,M,L		GE0C2160
1522	271 FORMAT (5H TAF,7X,3H =,15,5X,3H =,15,5X,3H =,15,5X,		GE0C2170
1523	• 15H** GE0C - 1P(4) **)		GE0C2170
1524	DO 273 1=1,350,5		GE0C2180
1525	12=11*4		GE0C2190
1526	WRITE(6,272) 11,(TAF(13),13=11,12)		GE0C2200
1527	272 FORMAT (1H , 15, 5E16.7)		GE0C2210
1528	273 CONTINUE		GE0C2220
1529	C		GE0C2230
1530	280 RETURN		GE0C2240
1531	END		GE0C2250
1532	*****		
1533	C		
1534	C *****SUBROUTINE VGEOM*****		
1535	C ***ROTATED SURFACE PLAIN GEOMETRY EVALUATION***		
1536	C		
1537	*****		
1538	C		
1539	C SUBROUTINE VGEOM		
1540	C		
1541	C *****SUBROUTINE TO PROCESS AND CALC SHEET GEOMETRY FOR		
1542	C ** VARIABLE SHEEP MINDS****		
1543	C		
1544	C ***CALC READ GEOMETRY FOR FLUTTER EVALUATION***		
1545	C *SETUP SHEET GEOMETRY DATA IN TOL(181-200)*		
1546	C		
1547	COMMON T(200),D(2000),CD(2000),ND(100)		
1548	COMMON /1PRINT/ 1P(80)		
1549	C		
1550	DIMENSION TXY(500),TVS(400),TOL(200),		
1551	1YTB(120),YS(11),YEA(11),NEA(11),		
1552	SDC(100),TT(120)		
1553	C		
1554	EQUIVALENCE (TXY(1),T(001)),(TVS(1),CD(001)),(TOL(1),T(1701)),		
1555	1YTB(1),TXY(50),YS(1),TXY(400)),		
1556	2YEA(1),YTB(11),NEA(1),YTB(12),		
1557	3SDPVY,D(200),SDPVY,D(201),4ELHDA,D(320),		
1558	4TOL(1),D(313),4JVS,D(315),4JFAC,D(312),4DWT1,D(250),		
1559	5ELHDA,D(321),6ELHDA,D(322),7ELHDA,D(323),8ELHDA,D(324),		
1560	9JVS,D(325),10JVS,D(326),		
1561	9DC(11),D(14011),TT(11),T(1317))		

08/10/74

INPUT LISTING

AUTOFLIGHT CHART SET - SHEEP

HIND AND EXPENDITURE MODULE -

CARD NO	CONTENTS
1052	C
1053	C
1054	C ***CLEAR TSJ AND TVS ARRAYS***
1055	DO 101 I=1,200
1056	TSJ(I) = DC(3)
1057	TVS(I) = DC(3)
1058	TVS(I+200) = DC(3)
1059	101 CONTINUE
1070	C
1071	C ***TEST IF HIND IS V/SMP***
1072	IF (DTPVT) 200,200,110
1073	110 IF (DLLMDA) 120,200,120
1074	C
1075	C ***CALC SHEEP GEOMETRY DATA***
1076	120 T(30) = DTPVT
1077	IF (DTPVT - 0(1)) 121,122,122
1078	121 T(30) = DTPVT*TXV(0)
1079	122 T(45) = T(30)*TXV(22) + TXV(25)
1080	T(47) = T(30)*TXV(27) + TXV(20)
1081	T(40) = ABS(DTPVT)
1082	T(46) = T(47) - T(40)
1083	IF (DTPVT) 127,123,124
1084	123 T(40) = T(30)*TXV(20) + TXV(22)
1085	T(46) = T(47) - T(40)
1086	GO TO 127
1087	124 T(40) = DTPVT
1088	IF (DTPVT - 0(1)) 125,123,126
1089	125 T(46) = DTPVT*T(45)
1090	126 T(40) = T(47) + T(46)
1091	127 T(46) = TXV(22)
1092	T(41) = T(30)
1093	T(50) = DC(3)
1094	T(48) = T(30)
1095	IF (TXV(20)) 120,120,120
1096	120 T(50) = T(40) - TXV(47)*T(30)
1097	T(46) = (TXV(22) - T(50))/(TXV(47) - TXV(20))
1098	T(40) = T(46)*TXV(20) + TXV(22)
1099	T(41) = T(40)/TXV(41)
1100	120 T(51) = (T(40) - T(401)/TXV(41))
1101	C
1102	DO 130 I=1 13
1103	TVS(I+20) = T(I+30)
1104	130 CONTINUE
1105	C
1106	TVS(34) = DLLMDA
1107	TVS(35) = 0(16)*TVS(34)
1108	TVS(37) = SIN(TVS(30))
1109	TVS(38) = COS(TVS(30))
1110	TVS(39) = TVS(37)/TVS(30)
1111	DO 131 I=1,5
1112	TXV(I+45) = TVS(21)*TXV(I+30) + TXV(I+10)
1113	131 CONTINUE
1114	C
1115	C ***CALC ROTATED Y,X COORDINATES FOR LE,FS,EA,RS,TE AT
1116	YIP(NDT) AND YITIP**
1117	DO 132 I=1,5
1118	CALL SHPKYP(TVS(21),TXV(I+45),TVS(I+40),TVS(I+45))
1119	CALL SHPKYP(TXV(0),TXV(I+30),TVS(I+50),TVS(I+55))
1120	132 CONTINUE
1121	C
1122	C ***ROTATED COORDINATES OF EA STATIONS***
1123	DO 133 I=1,11
1124	CALL SHPKYP(YEA(I),XEA(I),TVS(I+60),TVS(I+71))
1125	133 CONTINUE
1126	C
1127	TVS(107) = TVS(53)
1128	C
1129	C ***TAN, C, SIN, COS OF LE, FS, EA, RS, TE-- ROTATED**
1130	DO 134 I=1,5
1131	TVS(I+60) = (TVS(I+55) - TVS(I+45))/(TVS(I+50) - TVS(I+40))
1132	TVS(I+62) = TVS(I+45) - TVS(I+60)*TVS(I+40)

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08/10/74      INPUT LISTING      AUTOFLOW CHART SET - SHEEP MING AND EXPERIMED MODULE -

CARD NO      ****      CONTENTS      ****

1633          TVS(1+100) = TVS(107)+TVS(1+09) + TVS(1+02)
1634          TVS(1+101) = D(1)/D(107)+TVS(1+09)+TVS(1+02)
1635          TVS(1+08) = TVS(1+101)+TVS(1+09)
1636          TVS(1+141) = ATANH(TVS(1+09)/D(10))
1637          130 CONTINUE
1638          C
1639          TVS(100) = TVS(107) - TVS(103)
1640          TVS(100) = TVS(113) - TVS(100)
1641          TVS(105) = (TVS(100) - TVS(100))/TVS(107)
1642          C
1643          C      ***SHEEP MING AREA, ASPECT RATIO AND TAPER RATIO***
1644          TVS(110) = TVS(100)/TVS(100)
1645          TVS(114) = (TVS(100) + TVS(100))/D(17)+TVS(107)
1646          TVS(115) = TVS(107)/D(16)+TVS(107)/TVS(114)/D(6)
1647          TVS(120) = TVS(100)
1648          TVS(121) = TVS(100)
1649          TVS(122) = TVS(107)
1650          TVS(123) = TVS(107)/TVS(104)
1651          TVS(200) = TX(451)+TX(25)
1652          TVS(270) = TX(452)+TX(110)
1653          TVS(117) = TVS(200)/TVS(100)
1654          TVS(110) = TVS(270)/TVS(100)
1655          TVS(110) = TVS(110)/TVS(117)
1656          C
1657          C      **EXPOSED GEOMETRY DATA**
1658          TVS(133) = TX(17)
1659          TVS(132) = TVS(107) - TX(17)
1660          TVS(131) = TVS(100)
1661          TVS(130) = TVS(133)+TVS(105) + TVS(100)
1662          TVS(124) = (TVS(130) + TVS(131))+TVS(132)/D(17)
1663          TVS(125) = TVS(132)/D(6)+TVS(132)/TVS(124)/D(6)
1664          TVS(126) = TVS(131)/TVS(130)
1665          TVS(120) = TVS(110)
1666          TVS(271) = TX(17)+TX(450) + TX(457)
1667          TVS(127) = TVS(271)/TVS(130)
1668          TVS(120) = TVS(120)/TVS(127)
1669          C
1670          C      **EXPOSED PIVOT DATA--SHEEP AND NOMINAL**
1671          TVS(200) = TVS(100)
1672          TVS(270) = TVS(211)+TVS(105) + TVS(100)
1673          TVS(202) = TVS(211)
1674          TVS(201) = TVS(107) - TVS(202)
1675          TVS(275) = TVS(200)/TVS(270)
1676          TVS(273) = (TVS(200) + TVS(270))/D(17)+TVS(201)
1677          TVS(274) = TVS(201)/D(16)+TVS(201)/TVS(273)/D(6)
1678          TVS(272) = TVS(202)+TX(450) + TX(457)
1679          TVS(276) = TVS(272)/TVS(270)
1680          TVS(277) = TVS(110)
1681          TVS(278) = TVS(277)/TVS(270)
1682          C
1683          TVS(17) = TVS(27)
1684          TVS(10) = TX(10)
1685          TVS(10) = TVS(21)
1686          TVS(10) = TX(10) - TVS(10)
1687          TVS(3) = TVS(10)/TVS(17)
1688          TVS(11) = (TVS(10) + TVS(17))/D(17)+TVS(10)
1689          TVS(2) = TVS(10)/D(16)+TVS(10)/TVS(11)/D(6)
1690          TVS(5) = TX(452)
1691          TVS(4) = TVS(272)/TVS(17)
1692          TVS(6) = TVS(5)/TVS(4)
1693          C
1694          C      **% COORD AT 01/2, 01P, 0/2**
1695          DO 135 I=1,5
1696          TVS(1+104) = TVS(133)+TVS(1+00) + TVS(1+02)
1697          TVS(1+100) = TVS(202)+TVS(1+00) + TVS(1+02)
1698          TVS(1+104) = TVS(122)+TVS(1+00) + TVS(1+02)
1699          135 CONTINUE
1700          C
1701          C      **QUARTER CHORD DATA**
1702          TVS(101) = TVS(120)/D(4) + TVS(103)
1703          TVS(152) = (TVS(105) - TVS(121)/D(4) - TVS(1511))/TVS(122)

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CARD NO	****	CONTENTS	****
1704		$TVS(154) = SORT(011)/0(11) + TVS(152)*TVS(15211)$	
1705		$TVS(153) = TVS(152)*TVS(154)$	
1706		$TVS(149) = 0(13)$	
1707		$TVS(150) = ATANH(TVS(15211)/0(110))$	
1708	C		
1709	C	***STATION DATA**	
1710		IF (TVS(021)) 130,137,138	
1711	130	$TVS(204) = -0(11)/TVS(02)$	
1712		$TVS(205) = TVS(204) - TVS(01)$	
1713		$TVS(207) = TVS(204) - TVS(03)$	
1714	137	DO 140 I=1,11	
1715		$TVS(1+00) = TVS(1+00)/TVS(104)$	
1716		$TVS(1+00) = (TVS(1+00) - TVS(133))/TVS(132)$	
1717		$TVS(1+01) = TVS(1+00)*TVS(05) + TVS(00)$	
1718		$TVS(1+02) = TVS(1+01)$	
1719		$TVS(1+213) = TVS(1+202)/TVS(1+01)$	
1720		$TVS(1+024) = TVS(1+00)$	
1721		$TVS(1+240) = TVS(1+04)$	
1722		IF (TVS(021)) 130,130,138	
1723	130	$TVS(205) = TVS(1+71) - TVS(1+00)*TVS(204)$	
1724		$TVS(1+224) = (TVS(04) - TVS(205))/TVS(200)$	
1725		$TVS(1+240) = (TVS(00) - TVS(205))/TVS(207)$	
1726	130	$TVS(1+235) = TVS(1+224)*TVS(01) + TVS(04)$	
1727		$TVS(1+257) = TVS(1+240)*TVS(03) + TVS(00)$	
1728	140	CONTINUE	
1729	C		
1730	C		
1731	C	***COMPUTES, RS, CA**	
1732		$TVS(24) = (TVS(105) - TVS(150) + TVS(100) - TVS(105))/TVS(130) +$	
1733		$(TVS(131))$	
1734		$TVS(25) = (TVS(150) - TVS(105) + TVS(100) - TVS(105))/TVS(130) +$	
1735		$(TVS(131))$	
1736		$TVS(26) = (TVS(02)*TVS(132) + TVS(150) - TVS(105))/TVS(131) - TVS$	
1737		$(130))$	
1738	C		
1739	C	***TAU, (RS-FS)NORMAL**	
1740		$TVS(300) = 0(4)/TVS(115)*0(11) - TVS(115)/0(11) + TVS(116)$	
1741		$TVS(301) = SORT(011) + TVS(02)*TVS(021)$	
1742		$TVS(302) = TVS(300)*TVS(00)*TVS(104)$	
1743		$TVS(200) = 0(11)/(TVS(301)*0(11) + TVS(00)*TVS(302))/0(11) + (TVS(12$	
1744	C		
1745		$10) - 0(11)*TVS(302))$	
1746		$TVS(200) = (TVS(25) - TVS(24))/0(11) + (TVS(00) - TVS(24))*TVS(30$	
1747		$10))/0(11) + (TVS(20) - TVS(25))*TVS(300)*TVS(301))$	
1748	C		
1749	C	***STRUCTURAL CHORDS AT EXPOSED ROOT, PIVOT, TIP***	
1750		$TVS(140) = TVS(130)$	
1751		$TVS(141) = TVS(131)$	
1752		IF (TVS(021)) 141,143,141	
1753	141	$TVS(200) = TVS(204) - TVS(00)$	
1754		$TVS(207) = TVS(204) - TVS(04)$	
1755		$TVS(303) = TVS(157) - TVS(204)*TVS(133)$	
1756		$TVS(304) = TVS(107) - TVS(204)*TVS(132)$	
1757	143	DO 140 I=1,4	
1758		IF (TVS(021)) 144,145,144	
1759	144	$TVS(305) = (TVS(03) - TVS(1+302))/TVS(200)$	
1760		$TVS(306) = (TVS(07) - TVS(1+302))/TVS(207)$	
1761		$TVS(1+130) = (TVS(305) - TVS(306))/TVS(00)$	
1762	145	$TVS(1+141) = TVS(1+131)/TVS(104)$	
1763		$TVS(1+200) = TVS(1+200)/TVS(104)$	
1764		$TVS(1+10) = TVS(1+0)/TVS(141)$	
1765	140	CONTINUE	
1766	C		
1767	C	***EXPOSED STRUCTURAL GEOMETRY**	
1768		$TVS(134) = (TVS(140) + TVS(141))/0(17)*TVS(142)$	
1769		$TVS(135) = TVS(142)/0(16)*TVS(142)/0(16)/TVS(134)$	
1770		$TVS(136) = TVS(141)/TVS(140)$	
1771		$TVS(137) = TVS(271)/TVS(140)$	
1772		$TVS(138) = TVS(270)/TVS(141)$	
1773		$TVS(139) = TVS(130)/TVS(137)$	
1774	C		

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
1775	TVS(05) = (TVS(141) - TVS(140))/TVS(132)		
1776	TVS(06) = TVS(140) - TVS(133)*TVS(05)		
1777	TVS(200) = TVS(202)*TVS(05) + TVS(09)		
1778	TVS(201) = TVS(141)		
1779	TVS(205) = TVS(278)/TVS(200)		
1780	TVS(207) = TVS(130)		
1781	TVS(208) = TVS(207)/TVS(200)		
1782	TVS(209) = TVS(200)/TVS(200)		
1783	TVS(203) = (TVS(200) + TVS(200))/D(17)*TVS(201)		
1784	TVS(204) = TVS(201)/D(6)*TVS(201)/D(6)/TVS(203)		
1785	C		
1786	TVS(10) = TXV(10)		
1787	TVS(17) = TVS(10)*TXV(33) + TXV(26)		
1788	TVS(14) = TVS(278)/TVS(17)		
1789	TVS(15) = TVS(278)/TVS(10)		
1790	TVS(16) = TVS(15)/TVS(14)		
1791	TVS(13) = TVS(10)/TVS(17)		
1792	TVS(11) = (TVS(17) + TVS(10))/D(17)*TVS(10)		
1793	TVS(12) = TVS(10)/D(6)*TVS(10)/D(6)/TVS(11)		
1794	C		
1795	C *FLUTTER CALC DATA*		
1796	150 TVS(307) = 0.71		
1797	TVS(308) = 0.70		
1798	80 153 I=1,2		
1799	IF (TVS(1+308) - 0(1)) 151,151,152		
1800	151 TVS(1+308) = TVS(1+308)*TXV(6) + TXV(7)		
1801	152 TVS(311) = TVS(1+308)*TXV(29) + TXV(22)		
1802	CALL SHXPYP(TVS(1+308),TVS(311),TVS(1+308),TVS(312))		
1803	153 CONTINUE		
1804	C		
1805	TVJ(101) = TVS(114)		
1806	TVJ(102) = TVS(115)		
1807	TVJ(103) = TVS(116)		
1808	TVJ(104) = TVS(144)		
1809	TVJ(105) = TVS(117)		
1810	TVJ(106) = TVS(119)		
1811	TVJ(107) = TVS(133)*D(2)		
1812	C		
1813	TVJ(100) = TVS(123)		
1814	TVJ(108) = TVS(132)		
1815	TVJ(110) = TVS(142)		
1816	TVJ(111) = TVS(133)		
1817	TVJ(112) = TVS(130)		
1818	C		
1819	C *TVJ(113) = ONE AT 01/2. SETUP BY GEOW*		
1820	TVJ(114) = TVS(126)		
1821	TVJ(115) = TVS(127)		
1822	TVJ(116) = TVS(129)		
1823	TVJ(117) = TVS(120)		
1824	TVJ(118) = TVS(290)		
1825	TVJ(119) = TVS(190)		
1826	TVJ(120) = TVS(104)		
1827	TVJ(121) = TVS(24)		
1828	TVJ(122) = TVS(25)		
1829	TVJ(123) = TVS(26)		
1830	C		
1831	C *TVS(104) = AC. SETUP BY GEOW*		
1832	TVJ(125) = TVS(153)		
1833	TVJ(126) = TVS(154)		
1834	C		
1835	80 194 I=1,11		
1836	TVJ(1+126) = TVS(123) - TVS(1+100)		
1837	TVJ(1+127) = TVS(1+23)		
1838	TVJ(1+140) = TVS(1+30)		
1839	TVJ(1+150) = TVS(1+191)		
1840	TVJ(1+177) = TVS(1+100)		
1841	TVJ(1+180) = TVS(1+00)		
1842	194 CONTINUE		
1843	C		
1844	TVJ(176) = TVS(300)		
1845	TVJ(177) = TVS(310)		

CARD NO	CONTENTS	
1046	TLX(17) = BLXDA	
1047	TLX(17) = BLXDA	
1048	TLX(17) = BLXDA	
1049	TLX(17) = TLXDA	
1050	IF (TLXDA) 155,155,155	
1051	155 TLX(17) = DYT1	
1052	155 TLX(17) = GJAC	
1053	C	
1054	C	
1055	C **TEST FOR FLUTTER ANALYSIS CONTROL FOR GEOMETRY**	
1056	IF (GJ) 156,156,157	
1057	157 IF (GJ) 156,156,156	
1058	155 TLX(17) = GJBI	
1059	TLX(11) = TLX(17)/G(2)	
1060	155 TLX(10) = TVS(107) - TLX(11)	
1061	TLX(11) = TLX(10)/TVS(104)	
1062	TLX(112) = TLX(11)*TVS(105) + TVS(100)	
1063	TLX(114) = TVS(112)/TLX(112)	
1064	C	
1065	C ***COORD AT .25C***	
1066	155 TVS(313) = TVS(113)*TVS(112) + TVS(115)	
1067	TVS(314) = TVS(113)*TVS(112) + TVS(115)	
1068	TVS(315) = TVS(113)*TVS(112) + TVS(115)	
1069	C	
1070	C	
1071	C ***END PRINT***	
1072	C **PRINT ON IP(7)**	
1073	IF (IP(7)) 2000,2000,200	
1074	2000 WRITE (6,500)	
1075	500 FORMAT (30H) ***SHEEP MIND GEOMETRY***,50H,20H** VSEGM - IP(7)	
1076	1 ** ,/4H TVS	
1077	501 FORMAT (3X,13,2C16.0)	
1078	C	
1079	50 510 N=1,400.5	
1080	J = N + 10(4)	
1081	WRITE (6,501)N,1 /5(1),1-N,J,1)	
1082	510 CONTINUE	
1083	C	
1084	C	
1085	C ***EXIT**	
1086	200 RETURN	
1087	END	
1088	*****	
1089	C	
1090	C ****SUBROUTINE TENDC****	
1091	C ***TENDLE-SOX SECTION GEOMETRY EVALUATION***	
1092	C	
1093	*****	
1094	C	
1095	SUBROUTINE TENDC	TENDC000
1096	C	TENDC001
1097	C DETAIL GEOMETRY CALC. AND CONTROL SUBR	TENDC002
1098	C	TENDC003
1099	COMMON T(1300)	TENDC010
1100	COMMON /IPRINT/ IP(60)	
1101	C	TENDC019
1102	DIMENSION D(2000), CD(2000), ND(100), DC(100)	TENDC020
1103	1, (DPRT(4), DYS(1)), DTH(1), DTS(1), DRS(1), DTD(1),	TENDC030
1104	2, YTC(10), VC(100), TXV(500)	TENDC040
1105	3, YTB(124), VLE(100), YTC(100), TT(20)	TENDC050
1106	4, TR(10)	TENDC060
1107	C	TENDC069
1108	EQUIVALENCE (D(1),T(200)), (CD(1),T(412)), (ND(1),T(612))	TENDC080
1109	1, (DC(1),D(140)), (YTD(1),D(130)), (DPRT(1),D(47)), (CD(1),D(400))	TENDC070
1110	2, (DYS(1),D(500)), (DYS(1),D(500)), (DYS(1),D(500))	TENDC080
1111	3, (DTH(1),D(470)), (DTH(1),D(470)), (DTS(1),D(400))	TENDC090
1112	4, (DRS(1),D(400)), (AF10,D(143))	TENDC101
1113	5, (YTB(1),TXV(100)), (VLE(1),TXV(170)), (YTC(1),TXV(200))	TENDC110
1114	6, (VC(1),T(20)), (YTC(1),T(35)), (TXV(1),T(60))	TENDC120
1115	7, (TT(1),T(1317))	TENDC130
1116	8(INSEC,ND(60)), (1SEC,ND(95)), (1ND,ND(31))	TENDC140

05/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP

WING AND EMPENNAGE MODULE -

CARD NO	****	CONTENTS	****
1017		B,17B(1),T(13011)	TB470140
1018	C		TB470150
1019	C		TB470160
1020	C	COMPUTE EQUATIONS OF LINES AND SETUP T-BOK,LE/TE GEOMETRY DATA.	TB470170
1021	C		TB470180
1022	C	SETUP Y(4A), ON	TB470190
1023	C		TB470200
1024		900 TXY(400) = BC(3)	TB470210
1025		DO 901 I=2,11	TB470220
1026		901 TXY(1+400) = TXY(1+400)+D(1)/D(10)	TB470230
1027	C		TB470240
1028	C	CLEAR SUM AREAS AND VOL.	TB470250
1029		DO 902 I=1,8	TB470260
1030		TXY(1+400)=DC(3)	TB470270
1031		902 CONTINUE	TB470280
1032	C		TB470290
1033	C	**** SETUP T(1), T(2) FOR J(1) CALC. CLEAR SUM KSEC ***	TB470300
1034		VC(140)=0.10	TB470310
1035		VC(141)=0.20	TB470320
1036		VC(142)=DC(3)	TB470330
1037	C		TB470340
1038	C	***SETUP STRUCTURAL STATIONS. 10-DYID = D(804)***	TB470350
1039	C	0=ABS(VC(10) INCR. 1=INPUT REF TO D1/2.	TB470360
1040	C	2=INPUT REF TO C.A. 3=INPUT V(STRUCT), CALC IF MIROOT=.	TB470370
1041	C	*1=INPUT BOX DATA ID. 1=CALC. 2=INPUT*	TB470380
1042	C	*KSEC=BOX DESIGN ID. (OPPL/CSEC TYPE*	TB470390
1043	C	*KSEC 1=OPPL. 2=CSEC WITH CONST X-SECTION*	TB470400
1044	C	*ABS(VC(10) PLUS M(1),DAME(1),D(5(1),D(5(1)	TB470410
1045	C	*TEST M(2) FOR 0 AND M(1) FOR RECD WIDTH*	TB470420
1046		903 MD = MD(1)	TB470430
1047		KSEC = MD(1)	TB470440
1048		TT(1) = TXY(7)	TB470450
1049		TT(2) = D(1)	TB470460
1050		TT(2) = TXY(8)	TB470470
1051		IF (Y00D) 504,504,5030	TB470480
1052		5030 TT(2) = Y00D	TB470490
1053		IF (Y00D - D(1)) 5031,5031,504	TB470500
1054		5031 TT(2) = Y00D+TXY(8)	TB470510
1055	C		TB470520
1056	C	***TEST FOR TYPE OF INPUT**	TB470530
1057		504 IF (DYID) 507,507,5040	TB470540
1058		5040 DO 5041 I=1,11	TB470550
1059		TXY(1+400) = DYS(1)	TB470560
1060		5041 CONTINUE	TB470570
1061		IF (D(2) - DYID) 505,505,507	TB470580
1062	C		TB470590
1063	C	*INPUT V(STRUCT). TEST FOR INPUT BOX DATA*	TB470600
1064		905 TT(3) = TXY(4)	TB470610
1065		IF (OTBX(1)) 506,506,5051	TB470620
1066		5051 MD = MD(2)	TB470630
1067		IF (OTBX(2)) 506,5052,506	TB470640
1068		5052 KSEC = MD(2)	TB470650
1069	C		TB470660
1070	C	*RET TO C.A.**	TB470670
1071		906 TT(1) = DC(3)	TB470680
1072		907 TT(2) = (TT(2)-TT(1))/TT(3)	TB470690
1073		DO 908 I=1,11	TB470700
1074		IF (TXY(1+400)-D(1)) 508,508,5000	TB470710
1075		5000 TXY(1+400) = TXY(1+400)+TT(3) * TT(1)	TB470720
1076		GO TO 909	TB470730
1077		909 TXY(1+400) = TXY(1+400)+TT(2) * TT(1)	TB470740
1078		909 CONTINUE	TB470750
1079	C		TB470760
1080	C	DO BOX SECTIONS	TB470770
1081		910 DO 910 I=1,11	TB470780
1082		YTB(1)=TXY(1+400)	TB470790
1083		TXY(1+400)=TXY(1+400)/TXY(4)	TB470800
1084		YTB(1+1)=YTB(1)+TXY(20)+TXY(20)	TB470810
1085		10EC=1	TB470820
1086		TT(1)=YTB(1)	TB470830
1087		TT(2)=YTB(1+1)	TB470840

05/10/74	INPUT LISTING	AUTOFLON CHART SET - SHEEP	MINING AND EXPENSES MODULE -
CARD NO	****	CONTENTS	****
1000	C		TBM70050
1001	CALL ABOVE		TBM70060
1002	C		TBM70081
1001	C	STORE DAVE,OMAX,C,SC,KARE(50 IN)	TBM70070
1002		YTB(1+35)=TT(15)	TBM70080
1003		YTB(1+60)=TT(14)	TBM70090
1004		YTB(1+50)=TT(13)	TBM70700
1005		YTB(1+23)=TT(14)	TBM70710
1006		YTB(1+47)=TT(13)	TBM70720
1007	C		TBM70729
1008	C	STORE IV,X,DIFS,RS	TBM70730
1009		YLE(1)=YC(110)	TBM70740
2000		YLE(1+12)=YC(111)	TBM70750
2001		YLE(1+24)=YC(112)	TBM70760
2002		YTE(1)=YC(113)	TBM70770
2003		YTE(1+2)=YC(114)	TBM70780
2004		YTE(1+24)=YC(115)	TBM70790
2005	C		TBMDC701
2006	C	***PLATFORM AREA-LE,TE,T-BOX***	TBMDC702
2007	C	*T-BOX = STRUCT PALS*	TBMDC703
2008	C	*LE= ACRO PALS BETWEEN YEAR(1),YEAR(1-1),TRUE CHORDS*	TBMDC704
2009	C	*TE SAME AS LE*	TBMDC705
2010		TR(7) = (YC(83) - YC(81))/D(2)	TBMDC706
2011		TR(8) = (YC(87) - YC(85))/D(2)	TBMDC707
2012		TR(9) = YC(85) - YC(83)	TBMDC708
2013		TR(6) = YC(88) - YC(87)	TBMDC709
2014		IF (ND(1) - 1) S100,S103,S103	TBMDC710
2015	S100	TR(9) = TX(1+400) - TX(1+400)	TBMDC711
2016		YTB(1+60) = TR(8)/D(17)+(YTB(1+23) + YTB(1+82))/D(2)	TBMDC712
2017		TR(12) = YTB(1+23)/YTB(1+82)	TBMDC713
2018		TR(13) = TR(8)*D(1) + TR(12) + TR(12)/(D(3) + D(3)*TR(12))	TBMDC714
2019		YTB(1+102) = YTB(1-1) + TR(13)*TX(141)	TBMDC715
2020		YTB(1+113) = YTB(1+10) + TR(13)*TX(136)	TBMDC716
2021	C		TBMDC716
2022	C	*LE, TE**	TBMDC717
2023		TR(10) = YTB(1) - YTB(1-1)	TBMDC718
2024		TR(11) = TR(10)*D(10)/D(17)	TBMDC719
2025		DO S102 N=1,2	TBMDC720
2026		YTE(1+60) = TR(11)*(TR(14)+ TR(12))	TBMDC721
2027		TR(12) = TR(14)/TR(12)	TBMDC722
2028		TR(13) = TR(10)*D(1) + TR(12) + TR(12)/(D(3) + D(3)*TR(12))	TBMDC723
2029		YTE(1+60) = YTB(1-1) + TR(13)	TBMDC724
2030		YTE(1+60) = TR(1+2)*(YTE(1+60)-YTB(1-1)*(TR(14)-TR(12))/TR(10)	TBMDC725
2031		IF (N - ND(1)) S101,S101,S102	TBMDC726
2032	S101	YLE(1+60) = YTE(1+60)	TBMDC727
2033		YLE(1+60) = YTE(1+60)	TBMDC728
2034		YLE(1+60) = YTE(1+60)	TBMDC729
2035		S102 CONTINUE	TBMDC730
2036	C		TBMDC730
2037	C	*MOVE (1) TO 1-1	TBMDC731
2038	S103	DO S104 N=1,4	TBMDC732
2039		TR(14) = TR(14)	TBMDC733
2040		S104 CONTINUE	TBMDC734
2041	C		TBMDC735
2042	C		TBMDC736
2043	C		TBM70701
2044	C	***TEST FOR INPUT H,D AND FOR TYPE. IND=2 FOR INPUT***	TBM70702
2045	S11	IF (ND(12) - ND) S110,S110,S110	TBM70703
2046	S110	YTB(1+23) = OTBM(1)	TBM70704
2047		YTB(1+30) = OTBM(1)	TBM70705
2048		YTB(1+47) = OTBM(1)+OTBM(1)	TBM70706
2049		YLE(1+24)= OVS(1)	TBM70707
2050		YTE(1+24) = OVS(1)	TBM70708
2051	C		TBM70709
2052	C	***TEST FOR NSECC=2 FOR CONST X-SEC-SECM AT SEC(1)***	TBM70700
2053		IF (ND(1)) - 1) S111,S10,S10	TBM70800
2054	S111	IF (ND(12) - NSECC) S112,S112,S10	TBM70801
2055	S112	YTB(1+23) = YTB(1+22)	TBM70802
2056		YTB(1+35) = YTB(1+24)	TBM70803
2057		YTB(1+47) = YTB(1+46)	TBM70804
2058		YLE(1+24) = YLE(1+23)	TBM70805

08/18/74	INPUT LISTING	AUTOFLW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2050	YTC(1:24) = YTC(1:23)		TBM70805
2060	C		TBM70807
2061	C	**** CALC. KSEC(PRIME). STORE KSEC(1) AND MAX SEC. DEPTH ****	TBM70810
2062	S10 YLE(1:35) = (YTC(95)+SQRT(YTC(95)+1)/0(2)		TBM70820
2063	YTC(1:35)=YTC(60)		TBM70830
2064	C		TBM70840
2065	C	*** SUM K(SEC), CALC J(1) FOR T(1), T(2) ***	TBM70850
2066	YC(142)=YC(142)+YLE(1:35)		TBM70860
2067	C	*** J = T*(4*A*A/05(TB)) STORE IN YLE(50-60), YTC(50-60) ***	TBM70870
2068	YTC(1:50)=0(4)+YTC(1:13)/0(2)+YTC(14)+YC(112)+YC(115)+YTC(113)		TBM70880
2069	YLE(1:50)=YTC(1:50)+YC(140)		TBM70890
2070	YTC(1:50)=YTC(1:50)+YC(141)		TBM70900
2071	S10 CONTINUE		TBM70910
2072	C		TBM70919
2073	C	** K(SEC) AVE **	TBM70920
2074	YC(142)=YC(142)/0(11)		TBM70930
2075	C		TBM70940
2076	C	SETUP C-SEC DATA	TBM70950
2077	S20 IF (CSD(1)940,940,521		TBM70960
2078	S21 YLE(12) = YTB(1)+TX(20) + TX(21)		TBM70970
2079	YTC(12) = YTB(1)+TX(20) + TX(23)		TBM70980
2080	YTB(23) = YTC(12) - YLE(12)		TBM70990
2081	IF 0(11) - CSD(1) 522,530,523		TBM71000
2082	C		TBM71001
2083	C	INPUT	TBM71010
2084	S22 YTB(23)=CSD(1)		TBM71020
2085	GO TO 524		TBM71030
2086	S23 YTB(23) = CSD(1)+YTB(50)		TBM71040
2087	S24 YLE(12) = YTB(12) - YTB(23)/0(2)		TBM71050
2088	C		TBM71056
2089	C	***TEST FB(LOC). IF=0.0, SET (5,R, LOC GO EAIOPHL) IS AT	TBM71058
2090	C	MID-CHORD OF C-SEC***	TBM71060
2091	C	*IF LESS THAN 1, FRACTION OF YS(1) CHORD.	TBM71070
2092	C	*IF GREATER THAN 1 AND (1) = INCHES AFT OF LE*	TBM71080
2093	C	*IF (1-N) = FUS. STATION*	TBM71090
2094	IF (CWF(5) 525,529,528		TBM71100
2095	S25 YLE(12) = ABS(CWF(5)		TBM71110
2096	GO TO 529		TBM71120
2097	S26 YTC(12) = YTB(1)+TX(27) + TX(20)		TBM71130
2098	YLE(12) = CWF(5)		TBM71140
2099	IF (CWF(5) - 0(1)) 527,527,528		TBM71150
2100	S27 YLE(12) = CWF(5)+YTB(1)+TX(22) + TX(25))		TBM71160
2101	S28 YLE(12) = YTC(12) + YLE(12)		TBM71170
2102	S29 YTC(12) = YLE(12) + YTB(23)		TBM71180
2103	S30 YTB(114) = (YLE(12) + YTC(12))/0(2)		TBM71190
2104	C		TBM71200
2105	C	SETUP TO GO CSEC	TBM71210
2106	C		TBM71220
2107	S40 YTC(47)=YTB(1)		TBM71230
2108	YTC(48)=YLE(12)		TBM71240
2109	C		TBM71246
2110	IF (IP(5))5001,5001,5005		
2111	C		
2112	5001 WRITE(6,5002)		
2113	5002 FORMAT(1H1,61X,4H** DMAX (CALLED FROM TBMDC AND GEOPH) - IP(5) **		
2114	*)		
2115	IF (AF(10) - 0(8))5003,5003,5005		
2116	5003 WRITE(6,5004)		
2117	5004 FORMAT(9H40 Y(A) X(A) C(A) DMAX		
2118	4C/C 0(1) C(0) C/C0 1		
2119	C		
2120	5005 CALL DMAX		TBM71250
2121	C		TBM71251
2122	YLE(24)=YTC(48)		TBM71260
2123	YTC(48)=YTC(12)		TBM71270
2124	C		TBM71276
2125	CALL DMAX		TBM71280
2126	C		TBM71281
2127	YTC(24)=YTC(48)		TBM71290
2128	C		TBM71300
2129	C		TBM71306

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
2130	C *** BOX VOL ***		TBM71310
2131	DO 9=1,1,10		TBM71320
2132	TT(1)=TXV(1+90)-TXV(1+80)		TBM71330
2133	YTB(1+92)=YTB(1+7)+YTB(1+80)+TT(1)/D(2)		TBM71340
2134	9=1 CONTINUE		TBM71350
2135	C		TBM71360
2136	90 RETURN		TBM71380
2137	END		TBM71390
2138	*****		
2139	C		
2140	C *****SUBROUTINE ABOHC*****		
2141	C ***TORQUE-BOX CROSS-SECTIONAL AREA INTEGRATION***		
2142	C		
2143	*****		
2144	C		
2145	SUBROUTINE ABOHC		ABOHC000
2146	COMMON T(6320)		ABOHC010
2147	COMMON /IPRINT/ IP(80)		
2148	G(1)=X(1), CD(2000), MD(100), DC(100), TXV(500)		ABOHC020
2149	1, TT(20), YTC(100), YC(150)		ABOHC030
2150	2, TB(100)		ABOHC031
2151	EQUIVALENCE (D(1),T(2000)), (CD(1),T(121)), (MD(1),T(6121))		ABOHC040
2152	A, (TB(100),D(125)), (AFCC,D(153))		ABOHC041
2153	1,(DC(1),D(1401))		ABOHC050
2154	2, (YC(1),T(201)), (YTC(1),T(301)), (TXV(1),T(801))		ABOHC060
2155	3, (TT(1),T(1317))		ABOHC070
2156	4, (IN,MD(20)), (ISEC,MD(95)), (IK,MD(2P))		ABOHC080
2157	EQUIVALENCE (AFID,D(143))		
2158	C		ABOHC100
2159	C TORQUE-BOX X-SEC. AREA CALC. SUBR		ABO70010
2160	C		ABO70020
2161	C REVISION -- 11-25-68 -- CURVED LE, TE, T/C.		ABO70030
2162	C 08-14-68 -- NEW SUBR.		ABO70040
2163	C		ABO70050
2164	C COMPUTE BY STRUCTURAL SECTION AREA AT EA., OFS,ORS,DYAK(EA),DANE.		ABO70060
2165	C A= SURFDELTAIC*(D(1)+D(1+1))/2. DELTAIC= C(1C)/10		ABO70070
2166	C		ABO70080
2167	C		ABO70090
2168	C SETUP CARD DATA. Y1,X1 = SP AND F.S.		ABO70140
2169	C TT(1)=Y1		ABO70150
2170	C TT(2)=X1		ABO70160
2171	C COORD AT F5,RS NORMAL TO EA		ABO70170
2172	100 TT(17)=TT(1)		ABO70171
2173	TT(18)=TT(1)		ABO70172
2174	TT(19)=TXV(20)+TT(1)+TXV(21)		ABO70173
2175	TT(20)=TXV(30)+TT(1)+TXV(23)		ABO70174
2176	IF (TB(100)(3)) 120,120,110		ABO70175
2177	110 TT(16)=TT(12)-TT(1)+TXV(47)		ABO70180
2178	TT(15)=TXV(20)-TXV(47)		ABO70190
2179	TT(17)=(TT(16)-TXV(21))/TT(15)		ABO70200
2180	TT(18)=TT(17)+TXV(20)+TXV(21)		ABO70210
2181	TT(19)=TXV(30)-TXV(47)		ABO70220
2182	TT(19)=(TT(18)-TXV(23))/TT(15)		ABO70230
2183	TT(20)=TT(19)+TXV(30)+TXV(23)		ABO70240
2184	120 YC(110)=TT(17)		ABO70250
2185	YC(111)=TT(18)		ABO70260
2186	YC(113)=TT(19)		ABO70270
2187	YC(114)=TT(20)		ABO70280
2188	C CSTRUCT		ABO70290
2189	300 TT(20)=TT(20)-TT(18)		ABO70300
2190	TT(14)=TT(20)/TXV(41)		ABO70310
2191	TT(15)=TT(14)/AFCC		ABO70320
2192	TT(20)=TT(20)/AFCC		ABO70330
2193	TT(19)=(TT(17)-TT(19))/AFCC		ABO70340
2194	C		ABO70350
2195	C ***TEST FOR BK PRINT OF SECTION DATA--IP 5 ***		ABO70352
2196	C		ABO70355
2197	IF (IP(5)) 300,390,303		ABO70370
2198	C		ABO70380
2199	C PRINT GENERAL DATA		ABO70390
2000	300 TT(1)=TT(1)/TXV(41)		ABO70395

CARD NO	****	CONTENTS	****
0001		WRITE (6,301)SEC,TT(1),TT(11),TT(12),TT(14),TT(19),TT(20)	AB070950
0002	301	FORMAT (10H SECTION NO.13,61X,20H** ABMC AND DPAK - IP(5) *	
0003		** 20X,8HT(1),F11.3/20X,8HT(11),F11.3/20X,8HT(12),F11.3/	
0004		* 20X,8HT(14),F11.3/20X,8HT(19),F11.3/20X,8HT(20),F11.3/	
0005	C		
0006		IF (A710 - 010)306,306,303	
0007	C		
0008	306	WRITE(6,307)	
0009	307	FORMAT(
0010		1 X(A) C(A) DPAK DC/C 0(1) C(0)	AB070
0011		1 C/CO 1	AB070000
0012	C		AB070300
0013	C	DO D AT FS AND SAVE	AB070300
0014	303	TT(1)=TT(17)	AB070400
0015		TT(2)=TT(18)	AB070410
0016		YTC(47)=TT(1)	AB070420
0017		YTC(48)=TT(2)	AB070430
0018	C		
0019		CALL DPAK	AB070440
0020	C		
0021		TT(7)=YTC(48)	AB070450
0022		YTC(112)=YTC(48)	AB070460
0023		TT(6)=TT(7)	AB070470
0024		TT(10)=TT(7)	AB070480
0025		TT(13)=DC(3)	AB070490
0026		YTC(60)=TT(7)	AB070500
0027	C		AB070510
0028	C	DO AREA IN LOOP BASED ON FIXED NO IN DC(57)	AB070520
0029	304	DO=AFCC	AB070530
0030		DO 306 (-1,N	AB070540
0031		TT(17)=TT(17)+TT(19)	AB070550
0032		YTC(10)=TT(10)+TT(20)	AB070560
0033		TT(1)=TT(17)	AB070570
0034		TT(2)=TT(18)	AB070580
0035		YTC(47)=TT(1)	AB070590
0036		YTC(48)=TT(2)	AB070600
0037	C		
0038		CALL DPAK	AB070610
0039	C		
0040		TT(7)=YTC(48)	AB070620
0041		YTC(112)=YTC(48)	AB070630
0042	C	DELTA AREA = A(1-1)	AB070640
0043		TT(12)=TT(12)+TT(16)+TT(7)+TT(15)+0(2)	AB070650
0044		TT(10)=TT(7)	AB070660
0045	C	TEST FOR HAND(1)	AB070670
0046		IF (YTC(60)-TT(7))305,306,300	AB070680
0047	305	YTC(60)=TT(7)	AB070690
0048	306	CONTINUE	AB070700
0049	C		AB070710
0050	C	SETUP DATA FOR EXIT. EA DATA, D(ANE)	AB070720
0051	310	TT(1)=TT(11)	AB070730
0052		TT(2)=TT(12)	AB070740
0053		YTC(47)=TT(1)	AB070750
0054		YTC(48)=TT(2)	AB070760
0055	C		
0056		CALL DPAK	AB070770
0057	C		
0058		TT(7)=YTC(48)	AB070780
0059		TT(4)=YTC(50)	AB070790
0060		TT(3)=YTC(57)	AB070800
0061		TT(15)=TT(12)+TT(14)	AB070810
0062	C	CALC KSEC(1) AND PRINT	AB070820
0063		YTC(50)=TT(15)+YTC(60)	AB070830
0064	C		AB070830
0065		IF (IP(5))319,319,00	
0066	C		
0067	319	WRITE(6,320) YTC(50),TT(15),YTC(60)	AB070860
0068	320	FORMAT (10H K(SEC)=77.4,0H DAVE=77.3,0H DPAK=77.3)	AB070880
0069	:		AB070880
0070	C		AB070890
0071	00	RETURN	AB071030

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINE MODULE -
CARD NO	CONTENTS		
2672	END		AB071040
2673		
2674	C		
2675	C *****SUBROUTINE DPAK*****		
2676	C ***AIRFOIL DEPTH EVALUATION***		
2677	C		
2678	C.....		
2679	C		
2680	SUBROUTINE DPAK		DPAK0000
2681	C		DPAK0001
2682	C MAX DEPTH INTERPOLATION AND D(1) CALC SUBR.		DPAK0002
2683	C		DPAK0003
2684	COMMON T(6320)		DPAK0010
2685	C		DPAK0012
2686	COMMON /IPRINT/ IP(80)		DPAK0014
2687	C		DPAK0016
2688	DIMENSION D(2000), CD(2000), ND(100), DC(100)		DPAK0020
2689	1, TXY(500), DAF(500), TAF(350), YC(150), YTC(150)		DPAK0030
2690	2, AFD(6), DMPRT(4)		DPAK0040
2691	C		DPAK0048
2692	EQUIVALENCE (D(1),T(2061)), (CD(1),T(4121)), (ND(1),T(6121))		DPAK0050
2693	1, (DC(1),D(1401)), (AFID,D(1431)), (DMPRT(1),D(471))		DPAK0060
2694	2, (YC(1),T(201)), (YTC(1),T(351)), (AFD(1),T(411))		DPAK0070
2695	3, (TAF(1),T(431)), (TXY(1),T(801)), (DAF(1),T(1401))		DPAK0080
2696	4, (HAF,ND(67))		DPAK0090
2697	5, (HX,ND(20))		DPAK0091
2698	C		DPAK0100
2699	C		DPAK0000
2700	C YTC(47,48) = Y(1), X(1)		DPAK0100
2701	C YTC(48,50) = D(1), DPAK(1)		DPAK0110
2702	C		DPAK0120
2703	90 YC(100)=YTC(47)		DPAK0130
2704	YC(101)=YTC(48)		DPAK0140
2705	C		DPAK0140
2706	CALL CAERO		DPAK0150
2707	C		DPAK0160
2708	YTC(57)=YC(102)		DPAK0160
2709	YTC(58)=YC(105)		DPAK0170
2710	YTC(59)=YC(103)		DPAK0180
2711	I=ND(1)		DPAK0180
2712	101 IF (YTC(1:1)-YTC(47:1102,103,103		DPAK0200
2713	102 I=I+ND(1)		DPAK0210
2714	IF (ND(1:1)-1103,103,101		DPAK0220
2715	103 YTC(50)=YTC(47)+YTC(1:24)+YTC(1:35)		DPAK0230
2716	C		DPAK0240
2717	C **TEST ID FOR INPUT AIRFOIL SECTION DATA**		DPAK0250
2718	C *ID GREATER THAN 0=INPUT*		DPAK0251
2719	IF (AFID - D(8)) 104,104,200		DPAK0260
2720	C		DPAK0270
2721	C COMPUTE D(1)		DPAK0280
2722	104 YTC(51)=YTC(50)+AFD(1)		DPAK0290
2723	DO 105 I=1,5		DPAK0300
2724	YTC(51)=YTC(51)+AFD(1:1)		DPAK0310
2725	YTC(51)=YTC(51)+YTC(50)		DPAK0320
2726	105 CONTINUE		DPAK0330
2727	YTC(48)=DC(3)		DPAK0340
2728	IF (YTC(51))110,110,106		DPAK0350
2729	106 YTC(48)=SORT(YTC(51))		DPAK0360
2730	C		DPAK0370
2731	C D(1)		DPAK0380
2732	110 YTC(48)=YTC(48)+YTC(50)		DPAK0390
2733	C		DPAK0400
2734	C PRINT LOCAL CHORD DATA		DPAK0410
2735	C		DPAK0412
2736	IF (IP(5)+5001,5001,00		DPAK0414
2737	C		DPAK0416
2738	5001 IF (AFID - D(8))107,07,5002		DPAK0416
2739	C		DPAK0420
2740	5002 WRITE(6,5003)		DPAK0422
2741	5003 FORMAT(9H0 Y(1) X(1) C(1) DPAK		DPAK0424
2742	4C/C D(1) C(8) C/C0 1		DPAK0426

CARD NO	CONTENTS	
2743	C	DMA70420
2744	97 WRITE (6,90)YTC(47),YTC(48),YTC(57),YTC(58),YTC(59),YTC(49),YC(10)DMA70430	DMA70440
2745	1),YC(100)	DMA70450
2746	98 FORMAT (1H 3X,BF(1),3)	DMA70460
2747	99 TO 99	DMA70620
2748	C	DMA70630
2749	C INPUT AIRFOIL	DMA70640
2750	C ADD SPANWISE INTERPOLATION	DMA70650
2751	200 I=ND(1)	DMA70660
2752	IF(YTC(50)) 207,207,201	DMA70670
2753	201 IF(YTC(50)-0(1)) 202,206,206	DMA70680
2754	202 IF(DAF(11)-YTC(50)) 203,207,205	DMA70690
2755	203 I=I+ND(1)	DMA70700
2756	IF(MAF-1) 204,204,202	DMA70710
2757	204 I=MAF	DMA70720
2758	205 TAF(14)=DAF(11) - DAF(1)	DMA70730
2759	TAF(12)=DAF(11) - YTC(50)	DMA70740
2760	TAF(16)=TAF(12) / TAF(14)	DMA70750
2761	99 TO 210	DMA70760
2762	206 I=MAF	DMA70770
2763	207 TAF(12)=DC(3)	DMA70780
2764	TAF(14)=DC(3)	DMA70790
2765	TAF(16)=DC(3)	DMA70800
2766	C	DMA70810
2767	C SET UP Y INTERPOLATION	DMA70820
2768	C	DMA70830
2769	210 J=ND(1)	DMA70840
2770	IF(YTC(47)) 221,221,211	DMA70850
2771	211 IF(TAF(J)-YTC(47)) 212,221,220	DMA70860
2772	212 IF(TAF(J)-TXV(0)) 213,220,220	DMA70870
2773	213 J=J+ND(1)	DMA70880
2774	IF(ND(5)-J) 214,214,211	DMA70890
2775	214 J=ND(5)	DMA70900
2776	C SET UP Y(DATA)	DMA70910
2777	220 TAF(13)=TAF(J)-YTC(47)	DMA70920
2778	TAF(15)=TAF(J)	DMA70930
2779	TAF(17)=TAF(13) / TAF(15)	DMA70940
2780	99 TO 230	DMA70950
2781	221 TAF(13)=DC(3)	DMA70960
2782	TAF(15)=DC(3)	DMA70970
2783	TAF(17)=DC(3)	DMA70980
2784	C	DMA70990
2785	C SET UP Y(00,10) DATA (J=1,2,3,4 OR 5) IN H LOOP.	DMA71000
2786	C	DMA71010
2787	230 H=ND(1)	DMA71020
2788	K=J+50 + 50	DMA71030
2789	I=K+1	DMA71040
2790	231 TAF(M+17) = TAF(I+1)	DMA71050
2791	TAF(M+18) = TAF(I)	DMA71060
2792	TAF(M+21) = TAF(M+17) + TAF(16)*(TAF(M+18)-TAF(M+17))	DMA71070
2793	IF(M=ND(1)) 232,232,240	DMA71080
2794	232 H=ND(2)	DMA71090
2795	L=L+50	DMA71100
2796	99 TO 231	DMA71110
2797	C INTERPOLATE FOR Z	DMA71120
2798	240 YTC(48) = TAF(22) + TAF(17)*(TAF(23) - TAF(22))	DMA71130
2799	IF(YTC(48)) 241,241,110	DMA71140
2800	241 YTC(48) = 0.00001	DMA70470
2801	C PRINT DATA AT FS AND RS ONLY	DMA70471
2802	C *PRINT ID-K, I=ND, 2-PRINT*	DMA70480
2803	IF (ND(1) - NK)120,140,140	DMA70490
2804	120 IF(YTC(47)-YC(110)) 120,124,140	DMA70500
2805	122 IF(YTC(47)-YC(113)) 124,124,140	DMA70510
2806	C PRINT LINES 1=I,MAF,J,K,L	DMA70520
2807	C 2=TAF(1-5) 3=TAF(7-11)	DMA70530
2808	C 4=TAF(12-17) 5=TAF(18-23)	DMA70540
2809	C 6=TAF(14-18),TAF(14-18),TAF(14-18)	DMA70550
2810	C	DMA70560
2811	124 IF(1P(5))5000,5000,99	DMA70570
2812	C	DMA70580
2813	9999 WRITE(6,130) I,MAF,J,K,L	DMA70590

08/18/74	INPUT L. TIME	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2414	130	FORMAT(14H011,NAF,J,K,L),10X,517)	DNA70570
2415		WRITE(6,134) (TAF(11),11=1,23),TAF(1450),TAF(14),TAF(14)=1,DNA70580	
2416	134	FORMAT(6X,0F12.4 / 6X,0F12.4 / 6X,2F12.6,0F12.4),2F12.6 /	DNA70590
2417		1 6X,0F12.6 / 6X,4F12.6)	DNA70600
2418	140	GO TO 110	DNA70610
2419	C		DNA71160
2420	90	RETURN	DNA71170
2421		END	DNA71180
2422		C*****	
2423	C		
2424	C	****SUBROUTINE CAERO****	
2425	C	***TRAPEZOIDAL/TOTAL PLANFORM CHORD EVALUATION***	
2426	C		
2427		C*****	
2428	C		
2429		SUBROUTINE CAERO	CAE70000
2430		COMMON T(6320)	CAE70001
2431		DIMENSION D(2060), CD(2000), ND(100), DC(100)	CAE70002
2432		I, TX(500), YC(150)	CAE70003
2433		EQUIVALENCE (D(1),T(2061)), (CD(1),T(4121)), (ND(1),T(6121))	CAE70004
2434		I, (DC(1),D(1401)), (YC(1),T(201)), (TX(1),T(601))	CAE70005
2435	C		CAE70006
2436	C	UPDATED TO FORT 4 NOV. 1972	CAE70007
2437	C	TRUE CHORD INTERPOLATION AND CHORD RATIO CALC. SUBR.	CAE70010
2438	C		CAE70020
2439	C	11-22-68 --NEW SUBR. GIVEN Y(I),X(I)	CAE70030
2440	C	CALC CAERO1, SX/C RATIO.	CAE70040
2441	C		CAE70050
2442	C		CAE70060
2443	C		CAE70070
2444	C		CAE70080
2445	C		CAE70090
2446		100 DO 101 I=1,5	CAE70100
2447		YC(1+93)=YC(100)+TX(1+25)+TX(1+19)	CAE70110
2448		101 CONTINUE	CAE70120
2449		YC(104)=YC(98)-YC(94)	CAE70130
2450		YC(105)=(YC(101)-YC(94))/YC(104)	CAE70140
2451	C		CAE70150
2452	C	INTERPOLATE FOR LE	CAE70160
2453		110 I=ND(1)	CAE70170
2454		111 IF (YC(1+1)-YC(104))112,113,113	CAE70180
2455		112 I=I+ND(1)	CAE70190
2456		IF (ND(11)-1)113,113,111	CAE70200
2457		113 YC(93)=YC(100)+YC(1+24)+YC(1+35)	CAE70210
2458	C		CAE70220
2459	C	INTERPOLATE FOR TE	CAE70230
2460		120 I=ND(1)	CAE70240
2461		121 IF (YC(1+47)-YC(100))122,123,123	CAE70250
2462		122 I=I+ND(1)	CAE70260
2463		IF (ND(11)-1)123,123,121	CAE70270
2464		123 YC(90)=YC(100)+YC(1+70)+YC(1+81)	CAE70280
2465	C		CAE70290
2466		130 YC(102)=YC(98)-YC(93)	CAE70300
2467		YC(106)=YC(101)-YC(93)	CAE70310
2468		YC(103)=YC(106)/YC(102)	CAE70320
2469	C		CAE70330
2470	90	RETURN	CAE70350
2471		END	CAE70360
2472		C*****	
2473	C		
2474	C	****SUBROUTINE SHXPY****	
2475	C	***EVALUATION OF X,Y COORD. OF ROTATED POINT - V/BP PLANFORMS***	
2476	C		
2477		C*****	
2478	C		
2479		SUBROUTINE SHXPY(V,X,YP,XP)	
2480	C		
2481	C	***SUBR TO CALC COORDINATES OF PT(V,X) ROTATED	
2482	C	0 (0,-) DELTA LAMBDA DEGREES*	
2483	C	*REF ROTATION PT=(VPO,XPO)*	
2484	C	*COORD OF PT(R,X) AFTER ROTATION = (YP,XP)*	

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05/10/74      INPUT LISTING      AUTOFLON CHART SET - SHEEP      MING AND EXPENSE MODULE -

CARD NO      ****      CONTENTS      ****

2485      C
2486      C      *DELTA LAMBDA AND SIN,COS OF DELTA LAMBDA GIVEN*
2487      C
2488      COMMON T(2000),D(2000),CD(2000),ND(100)
2489      C
2490      DIMENSION TX(500),TVS(400),
2491      9TT(24)
2492      C
2493      EQUIVALENCE (TX(1),T(001)),(TVS(1),CD(001)),
2494      11YPO,TVS(21)),(XPO,TVS(22)),
2495      2(SINCL,TVS(37)),(COSCL,TVS(38)),
2496      9(TT(1),T(1317))
2497      C
2498      C
2499      C      ***CALC LENGTH, SIND AND COSO***
2500      TT(1) = Y - YPO
2501      TT(2) = X - XPO
2502      TT(3) = SQRT(TT(1)*TT(1) + TT(2)*TT(2))
2503      TT(4) = TT(2)/TT(3)
2504      TT(5) = TT(1)/TT(3)
2505      C
2506      C      **SIN, COS OF ROTATED LINE**
2507      TT(6) = SINCL*TT(5) + COSCL*TT(4)
2508      TT(7) = COSCL*TT(5) - SINCL*TT(4)
2509      C
2510      C      ***COORD OF ROTATED PT***
2511      XP = YPO + TT(3)*TT(7)
2512      YP = XPO + TT(3)*TT(6)
2513      C
2514      C
2515      RETURN
2516      END
2517      C*****
2518      C
2519      C      *****SUBROUTINE PRTO*****
2520      C      ***GEOMETRY SUMMARY PRINTED OUTPUT***
2521      C
2522      C*****
2523      C
2524      SUBROUTINE PRTO
2525      C
2526      COMMON T(0320)
2527      COMMON /HISC/ NHISC(100)
2528      COMMON /IPRINT/ IP(00)
2529      C
2530      DIMENSION D(2000), CD(2000), ND(100), DC(100)
2531      1, TD(000), TS(000), TX(500), R(16)
2532      2,TVS(400)
2533      C
2534      EQUIVALENCE (D(1),T(2001)), (CD(1),T(4121)), (ND(1),T(6121))
2535      2, (TD(1),CD(1101)), (TX(1),T(001)), (TS(1),CD(11))
2536      3, (DC(1),D(1401)), (R(1),NHISC(05))
2537      4, (NCASE,ND(00)), (NPAGE,ND(05))
2538      5, (TVS(1),CD(001)), (DYPVT,D(200)), (DLLMDA,D(320))
2539      C
2540      C      *** DETAIL GEOMETRY DATA PRINT SUBR -- 07-21-00 --
2541      C      FOR 4A-012 PROGRAM -(NEW) ***
2542      C      *** REVISION --07-10-00 -- ADD GEOMETRY TABULATION ***
2543      C
2544      C
2545      C
2546      C      07-21-00 -- BASIC REQ FOR V&P, FIXED MINDS, CURVED LE.
2547      C      SUBR CALLED BY Q:QW
2548      C
2549      C      PAGE 1 --REF GEOMETRY
2550      C      PAGE 2 --STRUCTURAL DETAIL DATA
2551      C
2552      C
2553      C      CLEAR TS REGION
2554      100 DO 100 I=1,500
2555      TS(I)=DC(3)

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PRTO0000
PRTO0011
PRTO0010
PRTO0012
PRTO0015
PRTO0020
PRTO0021
PRTO0020
PRTO0040
PRTO0050
PRTO0070
PRTO0080
PRTO0001
PRTO0000
PRTO0010
PRTO0020
PRTO0030
PRTO0040
PRTO0041
PRTO0044
PRTO0050
PRTO0060
PRTO0070
PRTO0080
PRTO0090
PRTO0100
PRTO0170
PRTO0100
PRTO0100
PRTO0200

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08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	**** CONTENTS ****		
2506	100 CONTINUE		PR170210
2507	C		PR170220
2508	C		PR170230
2509	C PRINT PAGE 1 (BASIC GEOMETRY)		PR170250
2510	WRITE(6,201)INCHES,(IRIN),N=1,10)		
2511	201 FORMAT(1H1,01X,10H** PR10 - 1P10) **		PR170260
2512	* BH CASE NO.,14,4X,BA10 /17X,BA10)		
2513	CALL BCOP		PR170240
2514	WRITE(6,202)		PR170280
2515	202 FORMAT(1H0,25X,40H*** GEOMETRY DATA - HEIGHT ANALYSIS REFERENCE **		PR170290
2516	1*)		PR170300
2517	C		PR170310
2518	TD(1)=TD(1)+0(10)		PR170320
2519	WRITE (6,203)TD(1),TD(2)		PR170330
2520	203 FORMAT (40H ** PLATFORM GEOMETRY PARAMETERS---SHEEP= FS.2,		PR170340
2521	110H DECREASES AT FS.4,BH C. **)		PR170350
2522	WRITE (6,204)(TD(1+2),1=1,10),(TD(1+12),1=1,10),(TD(1+22),1=1,10),		PR170360
2523	(TD(1+32),1=1,10),(TD(1+42),1=1,10)		PR170370
2524	204 FORMAT (100H0 PANEL AREA AR T.R. T/CIR) TPRT0380		
2525	1/4(1) SIGMA CIR) C(TIP) SPAN/2 BS/B1 /BH GROSS		PR170390
2526	IF11.3,F10.4,W10.5,F10.3,F0.3,2F10.3,/BH EXPOSEDF11.3,F10.4,W10.5,SPR170400		
2527	1,F10.3,F0.3,2F10.3,/BH STRUCT.F11.3,F10.4,W10.5,F10.3,F0.3,2F10.3,SPR170410		
2528	1,/BH P1AEROIF11.3,F10.4,W10.5,F10.3,F0.3,2F10.3,/BH P1STRCH11.3,PR170420		
2529	IF10.4,W10.5,F10.3,F0.3,2F10.3)		PR170430
2530	C		PR170440
2531	WRITE (6,2040)(TD(1+134),1=1,10),(TD(1+144),1=1,10),(TD(1+154),1=1,10),		PR170450
2532	1,10),(TD(1+164),1=1,10)		PR170460
2533	2040 FORMAT (BH CL-Y) F11.3,F10.4,W10.5,F10.3,F0.3,2F10.3,/BH CL-Y11 PR170470		
2534	IF11.3,F10.4,W10.5,F10.3,F0.3,2F10.3,/BH Y1-Y11 F11.3,F10.4,W10.5,SPR170480		
2535	1,F10.3,F0.3,2F10.3,/BH Y11-B/2F11.3,F10.4,W10.5,F10.3,F0.3,2F10.3,SPR170490		
2536	1)		PR170500
2537	C		PR170510
2538	C		PR170520
2539	WRITE (6,205)(TD(1+52),1=1,32),(TD(1+570),1=1,10),(TD(1+64),1=1,2),		PR170530
2540	1)		PR170531
2541	C		PR170530
2542	205 FORMAT (80H0 ** PLATFORM EQUATIONS AND COORDINATES. **		PR170540
2543	1 /10740 ITEM LE FS		PR170550
2544	1 EA RS TE FS10) .25 C AERO C STPR170560		
2545	1UC C/BH TAN SF11.6,/BH C10 SF11.3,/BH SIN W11.6,/BH		PR170570
2546	WCOS W11.6,/BH ANGLE W11.3,/BH EQU X/C,11X,W11.6,/BH X-B1/2 ,TPR170580		
2547	SF11.3,/BH X-PIVOT,W11.3,/BH X-B/2 ,W11.3)		PR170590
2548	C		PR170600
2549	C		PR170610
2550	WRITE (6,206)		PR170620
2551	206 FORMAT (40H0 ** T/C, LE, TE CONTROL POINTS. ** //100H POINT		PR170630
2552	1 (1) (2) (3) (4) (5) (6) (7)		PR170640
2553	1 (8) (9) (10) (11))		PR170650
2554	C		PR170660
2555	WRITE (6,207)(TS(1),1=1,77)		PR170670
2556	207 FORMAT (BH Y10.P.) 11F9.2,/BH T/C 11F9.4,/BH DMAX 11F9.3,/PR170680		
2557	(BH Y1LE) 11F9.2,/BH X1LE) 11F9.2,/ BH Y1TE) 11F9.2,/BH X1TE)PR170690		
2558	1 11F9.2)		PR170700
2559	C		PR170710
2560	C PRINT PAGE 2 (DETAIL STRUCTURAL DATA)		PR170720
2561	C PROCESS TO DATA FOR PRINT OUT OF TS BLOCK.		PR170730
2562	250 DO 250 I=1,11		PR170800
2563	N=1+0(11)		PR170810
2564	C		PR170820
2565	C *** BLOCK 1 DATA ***		PR170830
2566	C YEA, YS, Y11)/Y, C, DMAX, T/C, XEA, YFS, WFS, YRS, MRS		PR170840
2567	TS(N-01)=TD(1+297)		PR170850
2568	TS(N-01)=TD(1+273)		PR170860
2569	TS(N-01)=TD(1+229)		PR170870
2570	TS(N-71)=TD(1+240)		PR170880
2571	TS(N-01)=TD(1+251)		PR170890
2572	TS(N-01)=TD(1+202)		PR170900
2573	TS(N-41)=TD(1+210)		PR170910
2574	TS(N-31)=TD(1+300)		PR170920
2575	TS(N-21)=TD(1+301)		PR170930
2576	TS(N-11)=TD(1+304)		PR170940

CARD NO	CONTENTS	
2700	DO 200 N=1,10	PR171000
2701	K=H*ND(1)	PR171000
2702	J=K*ND(10)	PR171700
2703	WRITE (6,200)M,(TS(1)+252),I=J,K,1	PR171710
2704	200 FORMAT (14,F11.3,F9.3,F10.4,F9.4,F9.3,F10.3,F10.4)	PR171720
2705	200 CONTINUE	PR171730
2706	C	PR171740
2707	C	PR171750
2708	C	PR171760
2709	***TEST FOR SHEET GEOMETRY PRINT***	PR171770
2710	300 IF (DPPVT) 000,000,301	PR171780
2711	301 IF (OLLMDA) 302,000,302	PR171790
2712	302 WRITE (6,201)HCA6,(R(1),I=1,10)	PR171800
2713	302 WRITE (6,203)TVS(1),TVS(14)	PR171810
2714	C	PR171820
2715	303 FORMAT (14G,25K,30H*** SHEET POSITION GEOMETRY DATA ***,/20K,12HCEPR171830	PR171830
2716	14TA SHEEP=6.2,10H DEG. LE SHEEP=6.2)	PR171840
2717	C	PR171850
2718	WRITE (6,204)(TVS(1+113),I=1,30),(TVS(1+270),I=1,20)	PR171860
2719	C	PR171870
2720	WRITE (6,205)(TVS(1+00),I=1,5),DC(3),TVS(152),TVS(95),TVS(98),TVS(101),TVS(104),I=1,5),DC(1)PR171880	PR171880
2721	23),TVS(153),TVS(1+101),I=1,5),DC(3),TVS(154),TVS(1+143),I=1,7),PR171890	PR171890
2722	3TVS(1+23),I=1,3),TVS(1+154),I=1,5),DC(3),TVS(313),TVS(1+150),I=1)PR171900	PR171900
2723	4,5),DC(3),TVS(314),TVS(1+104),I=1,5),DC(3),TVS(315)	PR171910
2724	C	PR171920
2725	WRITE (6,201)TVS(14),DC(3)	PR171930
2726	DO 304 I=1,11	PR171940
2727	WRITE (6,202)I,TVS(1+00),TVS(1+100),TVS(1+100),TVS(1+101),TVS(1+20)PR171950	PR171950
2728	12),TVS(1+213),TVS(1+71),TVS(1+224),TVS(1+235),TVS(1+246),TVS(1+257)PR171960	PR171960
2729	2)	PR171970
2730	304 CONTINUE	PR171980
2731	C	PR171990
2732	C	PR172000
2733	000 IF (IP(7))000,000,000	PR172010
2734	C	PR172020
2735	TEMP OUP OF TX REGION	PR172030
2736	000 WRITE (6,301)	PR172040
2737	001 FORMAT (54H) ----- GENERAL GEOMETRY DATA -- TX REGION -----,PR172050	PR172050
2738	" 30K,10H*** PRTO - IP(7) ***END TX REGION	PR172060
2739	C	PR172070
2740	002 DO 304 J=1,400,7	PR172080
2741	K=J*ND(10)	PR172090
2742	WRITE (6,303)J,(TX(1),I=J,K,1)	PR172100
2743	003 FORMAT (14H 14,7E15.7)	PR172110
2744	304 CONTINUE	PR172120
2745	C	PR172130
2746	000 RETURN	PR172140
2747	END	PR172150
2748	*****SUBROUTINE SCOP*****	
2749	C	
2750	C	
2751	C	
2752	C	
2753	C	
2754	C	
2755	C	
2756	C	
2757	C	
2758	C	
2759	C	
2760	C	
2761	C	
2762	C	
2763	C	
2764	C	
2765	C	
2766	C	
2767	C	
2768	C	
2769	C	
2770	C	
2771	C	
2772	C	
2773	C	
2774	C	
2775	C	
2776	C	
2777	C	
2778	C	
2779	C	
2780	C	
2781	C	
2782	C	
2783	C	
2784	C	
2785	C	
2786	C	
2787	C	
2788	C	
2789	C	
2790	C	
2791	C	
2792	C	
2793	C	
2794	C	
2795	C	
2796	C	
2797	C	
2798	C	
2799	C	
2800	C	

06/16/74	INPUT LISTING	AUTOFLEX CHART SET - SHEEP	MIND AND EMPHASIS MODULE -
CARD NO	CONTENTS		
2768	7, (TVS(1),CD(60))		0C0P002
2770	C		0C0P100
2771	C *** DATA SET FOR PRIG PRINT SUB.		0C070010
2772	C		0C070020
2773	C **** 07-25-68 -- NEW SUB. ****		0C070030
2774	C		0C070040
2775	C		0C070050
2776	C ** SAME T/C, LE, TE DATA. **		0C070100
2777	1000 DO 1001 1-1,11		0C070110
2778	TS(1)=VTC(1)		0C070120
2779	TS(1+11)=VTC(1+11)		0C070130
2780	TS(1+22)=VTC(1+12)		0C070140
2781	TS(1+33)=VC(1)		0C070150
2782	TS(1+44)=VC(1+12)		0C070160
2783	TS(1+55)=VC(1+46)		0C070170
2784	TS(1+66)=VC(1+58)		0C070180
2785	TS(1+77)=VC(1+130)		0C070190
2786	1001 CONTINUE		0C070200
2787	C		0C070210
2788	C SET UP TO REGION FOR PRINT SUB. PRIG		0C070220
2789	DO 100 1-1,500		0C070230
2790	TD(1)=SC(3)		0C070240
2791	100 CONTINUE		0C070250
2792	DO 100 1-1,5		0C070260
2793	TD(1+52)=TXV(1+86)		0C070270
2794	TD(1+61)=TXV(1+10)		0C070280
2795	TD(1+70)=TXV(1+33)		0C070290
2796	TD(1+77)=TXV(1+38)		0C070300
2797	TD(1+84)=TXV(1+420)		0C070310
2798	TD(1+91)=TXV(1+425)		0C070320
2799	TD(1+98)=TXV(1+430)		0C070330
2800	TD(1+12)=TXV(1)		0C070340
2801	TD(1+22)=TXV(1+9)		0C070350
2802	C		0C070360
2803	C ONLY DO FOR ONE AND TWO.		0C070370
2804	IF (1-40(2))101,101,100		0C070380
2805	101 TD(1+50)=TXV(1+31)		0C070390
2806	TD(1+60)=TXV(1+24)		0C070400
2807	TD(1+10)=TXV(1+8)		0C070410
2808	TD(1+20)=TXV(1+17)		0C070420
2809	TD(1+30)=TXV(1+14)		0C070430
2810	TD(1+20)=TXV(1+5)		0C070440
2811	100 CONTINUE		0C070450
2812	TD(17)=TXV(4)+TXV(5)		0C070460
2813	TD(18)=TXV(5)		0C070470
2814	TD(27)=TXV(13)+TXV(14)		0C070480
2815	TD(28)=TXV(14)		0C070490
2816	TD(23)=TD(13)		0C070500
2817	TD(1)=440P/0(16)		0C070510
2818	TD(2)=440PC		0C070515
2819	TD(3)=440EA		0C070520
2820	TD(4)=440R		0C070525
2821	TD(5)=440R		0C070530
2822	TD(6) = TXV(451)		0C070535
2823	TD(7) = TXV(452)		0C070540
2824	TD(8) = TXV(452)/TXV(451)		0C070550
2825	TD(9)=TXV(25)		0C070560
2826	TD(10)=TXV(10)		0C070570
2827	TD(11)=TXV(18)		0C070580
2828	TD(12)=TXV(17)		0C070590
2829	DO 110 1-1,20		0C070600
2830	TD(1+22) = SC(3)		0C070610
2831	110 CONTINUE		0C070620
2832	C		0C070630
2833	C *** SETUP .25C DATA ***		0C070640
2834	TD(100)=0.25*TD(9)+TD(62)		0C070700
2835	TD(105)=0.25*TD(18)+TD(100)		0C070710
2836	TD(150)=(TD(105)-TD(100))/TD(11)		0C070720
2837	TD(150)=TD(22)+TD(150)+TD(100)		0C070730
2838	TD(11)=TD(100)		0C070740
2839	TD(77)=80RT(TD(100)+TD(150)-0(11))		0C070750

05/10/79	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MING AND EXPENSE MODULE -
CARD NO	****	CONTENTS	****
2040		TD(104)=0(11)/TD(77)	0C070760
2041		TD(77)=TD(99)/TD(77)	0C070770
2042	C		0C070780
2043	C		0C070790
2044	C	DO T/C CONTROL POINTS	0C070800
2045	C		0C070810
2046	C	SETUP BOX, LE DATA	0C070820
2047	200	DO 200 I=1,11	0C070830
2048		TD(1+007)=TXV(1+04)	0C070840
2049		TD(1+210)=TXV(1+05)	0C070850
2050		TD(1+229)=(TXV(1+04)-TXV(7))/TXV(8)	0C070860
2051		TD(1+240)=TXV(1+12)	0C070870
2052		TD(1+251)=TXV(1+23)	0C070880
2053		TD(1+262)=TXV(1+223)/TXV(1+12)	0C070890
2054		TD(1+273)=TXV(1+00)	0C070900
2055		TD(1+284)=TXV(1+77)	0C070910
2056		TD(1+295)=TXV(1+00)	0C070920
2057		TD(1+306)=TXV(1+202)	0C070930
2058		TD(1+317)=TXV(1+311)	0C070940
2059		TD(1+328)=TXV(1+101)	0C070950
2060		TD(1+339)=TXV(1+77)+0(2)+TXV(1+202)+TXV(1+311)	0C070960
2061		TD(1+350)=TXV(1+170)	0C070970
2062		TD(1+361)=TXV(1+100)	0C070980
2063		TD(1+372)=TXV(1+213)	0C070990
2064		TD(1+383)=TXV(1+236)	0C071000
2065		TD(1+394)=TXV(1+207)	0C071010
2066		TD(1+405)=TXV(1+290)	0C071020
2067		TD(1+416)=TXV(1+202)	0C071030
2068		TD(1+427)=TXV(1+345)	0C071040
2069		IF (1+40(10)) 201,201,200	0C071050
2070	201	TD(1+438)=TXV(1+35)-TXV(1+04)	0C071060
2071		TD(1+449)=TXV(1+400)-TXV(1+400)	0C071070
2072		TD(1+460)=TXV(1+170)-TXV(1+170)	0C071080
2073		TD(1+471)=TXV(1+200)-TXV(1+207)	0C071090
2074		TD(1+482)=TXV(1+135)	0C071100
2075		TD(1+493)=TXV(1+247)	0C071110
2076		TD(1+504)=TXV(1+300)	0C071120
2077		TD(1+515)=TXV(1+135)+TXV(1+247)+TXV(1+350)	0C071130
2078		TD(1+526)=TXV(1+140)/0(17)/0(12)	0C071140
2079		TD(1+537)=TXV(1+257)/0(17)/0(12)	0C071150
2080		TD(1+548)=TXV(1+300)/0(17)/0(12)	0C071160
2081		TD(400)=TD(400)+TD(1+400)	0C071170
2082		TD(510)=TD(510)+TD(1+510)	0C071180
2083		TD(521)=TD(521)+TD(1+521)	0C071190
2084		TD(532)=TD(532)+TD(1+532)	0C071200
2085		TD(543)=TD(543)+TD(1+543)	0C071210
2086		TD(554)=TD(554)+TD(1+554)	0C071220
2087		TD(565)=TD(565)+TD(1+565)	0C071230
2088	200	CONTINUE	0C071240
2089		TD(400)=TD(520)	0C071250
2090		TD(400)=TD(553)	0C071260
2091		DO 210 I=1,0	0C071270
2092		M=0(10)-1	0C071280
2093		TD(M+470)=TD(M+470)+TD(M+510)	0C071290
2094		TD(M+480)=TD(M+480)+TD(M+543)	0C071300
2095	210	CONTINUE	0C071310
2096	C		0C071320
2097	C	** SETUP TD(135-174), PANEL GEOMETRY. **	0C071330
2098	200	TD(135)=TD(6)	0C071340
2099		TD(140)=TD(6)	0C071350
2100		TD(150)=TD(263)	0C071360
2101		TD(160)=TD(273)	0C071370
2102		TD(130)=TD(263)	0C071380
2103		TD(140)=TD(273)	0C071390
2104		TD(150)=TD(273)	0C071400
2105		TD(160)=TD(7)	0C071410
2106		TD(141)=TD(8)	0C071420
2107		TD(151)=TD(9)	0C071430
2108		TD(161)=TD(200)+TD(60)+TD(80)	0C071440
2109		TD(171)=TD(210)+TD(60)+TD(80)	0C071450
2110		TD(142)=TD(161)	0C071460

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EXCHANGE MODULE -
CARD NO	****	CONTENTS	****
2011	TD(152)=TD(171)		GC071470
2012	TD(162)=TD(177)		GC071480
2013	TD(172)=TD(110)		GC071490
2014	TD(143)=TD(200)		GC071500
2015	TD(153)=TD(210)		GC071510
2016	TD(163)=TD(210)-TD(200)		GC071520
2017	TD(173)=TD(111)-TD(210)		GC071530
2018	C		GC071540
2019	DO 223 I=10,40,10		GC071550
2020	TD(1130)=TD(1120)/TD(1120)		GC071560
2021	TD(1127)=TD(1132)/TD(1131)		GC071570
2022	TD(1134)=TD(1133)/D(16)		GC071580
2023	TD(1125)=(TD(1131)+TD(1132))*TD(1133)/D(17)		GC071590
2024	TD(1140)=GC(3)		GC071600
2025	IF (TD(1125))202,202,201		GC071610
2026	201 TD(1125)=TD(1134)*TD(1134)/TD(1125)		GC071620
2027	202 TD(1134)=TD(1133)/TD(100)		GC071630
2028	203 CONTINUE		GC071640
2029	C		GC071650
2030	C *** MOVE K(SEC) AND FC,FT,FS DATA ***		GC071660
2031	DO 230 I=1,11		GC071670
2032	TD(1174)=TS(1177)		GC071680
2033	230 CONTINUE		GC071690
2034	C		GC071700
2035	C ***SETUP ANGLE AND EQUIV PER CENT DATA***		GC011710
2036	DO 231 I=1,7		GC011720
2037	TD(11570) = ATAN(TD(11521)/D(16)		GC011730
2038	231 CONTINUE		GC011740
2039	TD(104) = T(42)		GC011750
2040	TD(105) = T(44)		GC011760
2041	TD(106) = T(43)		GC011770
2042	C		GC011780
2043	C ***CHECK FOR PIVOT DATA SETUP***		GC011790
2044	IF (OTPV1) 200,200,232		GC011800
2045	232 DO 233 I=1,20		GC011810
2046	TD(1132) = TV5(1)		GC011820
2047	233 CONTINUE		GC011830
2048	C		GC011840
2049	C		GC070000
2050	200 RETURN		GC070000
2051	END		GC070000

OVERLAY (14,0)

LEADING AND TRAILING EDGE STRUCTURES,
WEIGHT AND MASS PROPERTIES ANALYSIS

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06/10/74      INPUT LISTING      AUTOFLOW CHART SET - SHEEP      WING AND EMPENNAGE MODULE -
FORTRAN MODULE  (LIST,AUTOREG)

CARD NO      ***      CONTENTS      ***

1      C*****
2      C
3      C      ****PROGRAM GLAYIN****
4      C      ***PROGRAM FOR SECOND SECOND OVERLAY OF WING/EMPENNAGE MODULE***
5      C      LEADING AND TRAILING STRUCTURES - HEIGHT AND MASS PROPERTIES
6      C
7      C*****
8      C
9      C      PROGRAM GLAYIN
10     C
11     C      COMMON T(7120)
12     C
13     C      COMMON /MISC/ NMISC(100)
14     C
15     C      REMIND 24
16     C
17     C      BUFFER IN(24,1)(T(1),T(7120))
18     C
19     C      IF(UNIT(24))10,10,10
20     C
21     C      10 CALL MLETE
22     C
23     C      REMIND 24
24     C
25     C      BUFFER OUT(24,1)(T(1),T(7120))
26     C
27     C      IF(UNIT(24))20,20,20
28     C
29     C      20 CONTINUE
30     C
31     C      END
32     C*****
33     C
34     C      ****SUBROUTINE MLETE****
35     C      ***LEADING EDGE - TRAILING EDGE HEIGHT ESTIMATION CONTROL***
36     C
37     C*****
38     C
39     C      SUBROUTINE MLETE      MLETE010
40     C      MLETE011
41     C      ***CONTROL SLUR FOR LE/TE HEIGHT AND DISTRIBUTIONS***      MLETE020
42     C      MLETE030
43     C      COMMON T      MLETE040
44     C      COMMON /IPRINT/ IP(80)      MLETE041
45     C      COMMON /MISC/ NMISC(100)      MLETE042
46     C      MLETE050
47     C      DIMENSION T(6200),D(2000),CD(2000),ND(100),DC(100),      MLETE060
48     C      176A(135),TFRKD(60),CCL(300),CCT(300),      MLETE061
49     C      ZYC(150),TXY(500),TXYO(500),      MLETE062
50     C      ZYE(150),R(16),      MLETE063
51     C      47AND(9),CCL0(9),SIND(6),COS0(6),      MLETE064
52     C      SCC(1300),CCM(50),TAD(300),TST(50),      MLETE065
53     C      BC10Y(150),      MLETE066
54     C      CLE(1150),CTE(1150)      MLETE068
55     C      MLETE070
56     C      EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)),      MLETE080
57     C      11DC(1),D(1401)),(C10Y(1),T(501)),      MLETE081
58     C      2176A(1),T(1051)),(TFRKD(1),T(1001)),(CCL(1),CD(51)),      MLETE082
59     C      31YC(1),T(201)),(TXY(1),T(601)),(TXYO(1),T(501)),      MLETE083
60     C      417AND(1),T(102)),(CCL0(1),T(131)),(SIND(1),T(140)),      MLETE084
61     C      51COS0(1),T(140)),(COTE(1),T(152)),(TAD(1),T(1301)),      MLETE085
62     C      61CC(1),CD(1001)),(CCM(1),CD(111),TST(1),T(1701)),      MLETE086
63     C      71TE(1),CD(1201)),(NMVTD,T(157)),(R(1),NMISC(65)),      MLETE087
64     C      81NCASE,ND(60)),(NPAZE,ND(60)),      MLETE088
65     C      91CCT(1),CD(301)),(CLE(1),CD(651)),(CTE(1),CD(601))      MLETE089
66     C      MLETE090
67     C      17 FTE100
68     C      ***SETUP YC AND TXY ARRAYS FOR SCHL***      MLETE110
69     C      MLETE100
70     C      100 DO 101 I=1,500      MLETE120

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05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINE/MODE MODULE -
CARD NO	CONTENTS		
71	TRY(1) = TRY(1)		MLETE130
72	101 CONTINUE		MLETE140
73	DO 102 I=1,82		MLETE150
74	N = 83 - I		MLETE160
75	YCIN(N) = YCIN		MLETE170
76	102 CONTINUE		MLETE180
77	C		MLETE190
78	C		MLETE200
79	C ***SETUP LE,TE,COL,FUEL,T-BON CALC. GEOMETRY DATA***		MLETE201
80	CALL BONL		MLETE210
81	C		MLETE210
82	C ***LE, TE HEIGHT AND PERT...***		MLETE260
83	C ***CLEAR TE ARRAY FOR PRINT DATA***		MLETE251
84	300 DO 301 I=1,150		MLETE260
85	TE(I) = 0C(3)		MLETE270
86	CLOY(I) = 0C(13)		MLETE271
87	301 CONTINUE		MLETE280
88	C		MLETE280
89	302 CALL LEHT		MLETE290
90	C		MLETE291
91	C ***TOTAL LE STRUCTURE HEIGHTS TO TWO***		MLETE292
92	TWO(1) = CON(1)		MLETE293
93	C		MLETE290
94	303 CALL TEND		MLETE300
95	C		MLETE301
96	C ***TOTAL TE STRUCTURE HEIGHTS TO TWO***		MLETE302
97	TWO(4) = CON(2)		MLETE303
98	C		MLETE304
99	C ***LE,TE HEIGHT DISTRIBUTION INTEGRATION***		MLETE305
100	304 CALL LETE		MLETE306
101	C		MLETE308
102	C ***PRINT HEIGHT SUMMARY PAGE FOR LE/TE***		MLETE309
103	C ***PRINT ID = IP(12)***		MLETE310
104	IF (IP(12))300,300,340		MLETE315
105	300 WRITE (6,310)CAGE,C(1),I=1,10		
106	310 FORMAT (10H) CAGE NO,14,7X,20H** MLETE = IP(12) **		
107	• 10X,BA10/10X,BA10		
108	C		MLETE340
109	311 FORMAT (10H) ***LEADING EDGE AND TRAILING EDGE STRUCTURE		MLETE350
110	HEIGHT AND DISTRIBUTION SUMMARIES*** //10H		MLETE351
111	2 MT-LB/IN M/S-LB/IN AREA-OF/IN YC(1P) XCG(1P) YC(1P)		MLETE352
112	20(1P) XCG(1P)//20H ***TOTAL L. EDGE STRUCTURES***,F10.2,F10.3,F10.4		MLETE353
113	412.3,F10.2)		MLETE354
114	C		MLETE360
115	312 FORMAT (10H) ***TOTAL T. EDGE STRUCTURES***,F10.2,F10.3,F10.4,F10.5		MLETE360
116	1.2)		MLETE361
117	313 FORMAT (10H) **FIXED LEADING EDGE***,F10.2,F10.3,F10.4,F10.5		MLETE363
118	1.2)		MLETE364
119	314 FORMAT (10H) **FIXED TRAILING EDGE***,F10.2,F10.3,F10.4,F10.5		MLETE366
120	1.2)		MLETE367
121	C		MLETE368
122	305 FORMAT (14H) **LE DEV,12,10H. /LE SLATS-//,F10.2,F10.3,F10.4		MLETE370
123	1,F10.2)		MLETE371
124	306 FORMAT (14H) **LE DEV,12,10H. /WINGERS-//,F10.2,F10.3,F10.4		MLETE373
125	1,F10.2)		MLETE374
126	307 FORMAT (14H) **LE DEV,12,10H. /DROOP LE-//,F10.2,F10.3,F10.4		MLETE376
127	1,F10.2)		MLETE377
128	C		MLETE378
129	308 FORMAT (14H) **TE DEV,12,10H. /SPOILERS-//,F10.2,F10.3,F10.4		MLETE380
130	1,F10.2)		MLETE381
131	309 FORMAT (14H) **TE DEV,12,10H. /P. FLAPS-//,F10.2,F10.3,F10.4		MLETE383
132	1,F10.2)		MLETE384
133	310 FORMAT (14H) **TE DEV,12,10H. /S-S FLAPS-//,F10.2,F10.3,F10.4		MLETE386
134	1,F10.2)		MLETE387
135	311 FORMAT (14H) **TE DEV,12,10H. /B-S FLAPS-//,F10.2,F10.3,F10.4		MLETE388
136	1,F10.2)		MLETE389
137	312 FORMAT (14H) **TE DEV,12,10H. /T-S FLAPS-//,F10.2,F10.3,F10.4		MLETE391
138	1,F10.2)		MLETE392
139	313 FORMAT (14H) **TE DEV,12,10H. /AILERONS-//,F10.2,F10.3,F10.4		MLETE394
140	1,F10.2)		MLETE395
141	314 FORMAT (14H) **TE DEV,12,10H. /ELEVATORS-//,F10.2,F10.3,F10.4		MLETE397

08/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP

MINING AND EXPENSES MODULE -

CARD NO	****	CONTENTS	****
142		1,4710.21	MLETE401
143	337	FORMAT (11M) **TE DEV,12,10M. /RUDDERS--/** ,710.2,710.3,712.34,MLETE403	
144		1,4710.21	MLETE404
145	C		MLETE407
146	C	***SETUP DATA FOR PRINT--LB/AN AND SO FT/AN**	MLETE408
147	C	*DOUBLE LE AND TE MTS AND AREAS*	MLETE409
148	346	DO 341 1=1,8	MLETE410
149		CCM(1) = D(2)*CCM(1)/ANV10	MLETE411
150		CCM(1+10) = D(2)*CCM(1+10)/ANV10	MLETE412
151	341	CONTINUE	MLETE416
152		CCM(25) = D(2)*CCM(25)/ANV10	MLETE417
153		CCM(26) = D(2)*CCM(26)/ANV10	MLETE418
154	C		MLETE419
155	C		MLETE419
156	C	***SAVE LE/TE DATA FOR OUTPUT SUMMARY**	MLETE419
157		TMD(86) = CCM(13)	MLETE419
158		TMD(87) = CCL(84)*D(2)/ANV10	MLETE419
159		TMD(88) = CCL(85)*D(2)/ANV10	MLETE419
160		TMD(89) = CCL(86)*D(2)/ANV10	MLETE419
161		TMD(70) = CCM(15)	MLETE419
162		TMD(71) = CCM(16)	MLETE419
163		TMD(72) = CCM(18)	MLETE419
164		TMD(73) = CCM(17)	MLETE419
165	C		MLETE419
166	C	*PROCESS LE DATA AND PRINT*	MLETE420
167	C	*PRINT DATA ON IF 12**	MLETE421
168		IF (IP(12)) 3410,3410,300	
169	3410	TST(1) = CCM(27)	MLETE430
170		TST(2) = CCM(31)	MLETE440
171		TST(6) = CCM(100)	MLETE460
172		TST(7) = CCM(32)	MLETE460
173	DO 342 1=1,3		MLETE470
174		TST(1+10) = CCL(1+63)*D(2)/ANV10	MLETE480
175		TST(1+13) = CCL(1+75)*D(2)/ANV10	MLETE480
176		TST(1+2) = CCL(1+93)	MLETE500
177		TST(1+7) = CCL(1+90)	MLETE510
178	342	CONTINUE	MLETE520
179	C		MLETE530
180	DO 345 1=1,5		MLETE540
181		IF (TAND(3)) 344,343,344	MLETE550
182	343	TST(1+5) = CCL(43) - TST(1+5)	MLETE560
183		GO TO 345	MLETE570
184	344	TST(17) = TST(1)*TAND(3) + CCL(43) - TST(1+5)	MLETE580
185		TST(1) = TST(1)/COS(43) - TST(17)*SIN(43)	MLETE590
186		TST(1+5) = TST(17)*COS(43)	MLETE600
187	345	CONTINUE	MLETE610
188	C		MLETE620
189		WRITE (6,31)CCM(1),CCM(9),CCM(17),CCM(27),CCM(28),TST(1),TST(6)	MLETE630
190		WRITE (6,31)CCM(3),CCM(11),CCM(19),CCM(31),CCM(32),TST(2),TST(7)	MLETE640
191	C		MLETE640
192	DO 300 1=1,3		MLETE650
193		IF (CCL(1N+63)) 300,300,346	MLETE660
194	346	IF (CCM(1N+2) - D(2)) 347,346,346	MLETE670
195	347	WRITE (6,32)1N,TST(1N+10),CCL(1N+90),TST(1N+13),CCL(1N+93),CCL(1N+99),TST(1N+2),TST(1N+7)	MLETE680
196		GO TO 300	MLETE690
197	346	WRITE (6,32)1N,TST(1N+10),CCL(1N+90),TST(1N+13),CCL(1N+93),CCL(1N+99),TST(1N+2),TST(1N+7)	MLETE700
198		GO TO 300	MLETE710
199	340	WRITE (6,32)1N,TST(1N+10),CCL(1N+90),TST(1N+13),CCL(1N+93),CCL(1N+99),TST(1N+2),TST(1N+7)	MLETE720
200		CONTINUE	MLETE730
201	C		MLETE730
202	C	***TE STRUCTURES**	MLETE730
203		TST(1) = CCM(29)	MLETE740
204		TST(2) = CCM(35)	MLETE741
205		TST(9) = CCM(30)	MLETE742
206		TST(10) = CCM(38)	MLETE743
210	DO 301 1=1,5		MLETE750
211		TST(1+10) = CCL(1+63)*D(2)/ANV10	MLETE761
212		TST(1+22) = CCL(1+75)*D(2)/ANV10	MLETE762

CARD NO	CONTENTS	*****
213	TST(1+2) = CCT(1+93)	MLETE793
214	TST(1+10) = CCT(1+99)	MLETE794
215	201 CONTINUE	MLETE795
216	C	MLETE796
217	DO 304 I=1,8	MLETE798
218	IF (TAND(3)) 353,352,353	MLETE791
219	352 TST(1+0) = CCL0(3) - TST(1+0)	MLETE795
220	GO TO 304	MLETE796
221	353 TST(29) = TST(1)*TAND(3) + CCL0(3) - TST(1+0)	MLETE779
222	TST(1) = TST(1)/COS0(3) - TST(29)*SIND(3)	MLETE780
223	TST(1+0) = TST(29)*COS0(3)	MLETE780
224	204 CONTINUE	MLETE800
225	C	MLETE800
226	WRITE (6,312)CCM(2),CCM(10),CCM(18),CCM(26),CCM(30),TST(1),TST(9)	MLETE810
227	WRITE (6,314)CCM(5),CCM(13),CCM(21),CCM(35),CCM(38),TST(2),TST(10)	MLETE820
228	C	MLETE820
229	DO 307 N=1,6	MLETE830
230	IF (CCT(N+93)) 357,357,355	MLETE840
231	355 IF (N - ND(2)) 356,356,357	MLETE841
232	C	MLETE840
233	C **SPOILERS. N=1,2**	MLETE840
234	356 WRITE (6,330)N,TST(N+10),CCT(N+93),TST(N+22),CCT(N+93),CCT(N+99),TLETE850	MLETE850
235	1ST(N+2),TST(N+10)	MLETE851
236	GO TO 357	MLETE850
237	C	MLETE850
238	357 IF (CCM(N+43) - 0(1)) 358,358,358	MLETE861
239	358 WRITE (6,331)N,TE(N+14),TE(N+18),TST(N+22),TE(N+22),TE(N+26),TE(N+26)	MLETE862
240	130),TE(N+34)	MLETE863
241	GO TO 357	MLETE860
242	358 WRITE (6,332)N,TE(N+14),TE(N+18),TST(N+22),TE(N+22),TE(N+26),TE(N+26)	MLETE870
243	130),TE(N+34)	MLETE871
244	GO TO 357	MLETE870
245	358 IF (CCM(N+43) - 0(3)) 351,352,353	MLETE880
246	351 WRITE (6,333)N,TE(N+14),TE(N+18),TST(N+22),TE(N+22),TE(N+26),TE(N+26)	MLETE881
247	130),TE(N+34)	MLETE882
248	GO TO 357	MLETE880
249	352 WRITE (6,334)N,TE(N+14),TE(N+18),TST(N+22),TE(N+22),TE(N+26),TE(N+26)	MLETE890
250	130),TE(N+34)	MLETE891
251	GO TO 357	MLETE890
252	353 IF (CCM(N+43) - 0(5)) 354,355,355	MLETE900
253	354 WRITE (6,335)N,TE(N+14),TE(N+18),TST(N+22),TE(N+22),TE(N+26),TE(N+26)	MLETE901
254	130),TE(N+34)	MLETE902
255	GO TO 357	MLETE900
256	355 WRITE (6,336)N,TE(N+14),TE(N+18),TST(N+22),TE(N+22),TE(N+26),TE(N+26)	MLETE910
257	130),TE(N+34)	MLETE911
258	GO TO 357	MLETE910
259	356 WRITE (6,337)N,TE(N+14),TE(N+18),TST(N+22),TE(N+22),TE(N+26),TE(N+26)	MLETE920
260	130),TE(N+34)	MLETE921
261	357 CONTINUE	MLETE930
262	C	MLETE931
263	C **SAME TST(1-20) DATA IN TE(100-100)***	MLETE932
264	DO 308 I=1,20	MLETE933
265	TE(1+0) = TST(1)	MLETE934
266	308 CONTINUE	MLETE935
267	C	MLETE936
268	C	MLETE940
269	C **SAME LE AND TE DATA ON RCDS 140 AND 150***	MLETE945
270	C *RCD 140 = CLE1*	MLETE950
271	C *RCD 150 = CTE1*	MLETE960
272	C	MLETE980
273	300 CALL WRITHE (1,CLE1(1),100,140)	MLETE970
274	CALL WRITHE (1,CTE1(1),100,150)	MLETE980
275	C	MLETE980
276	C **PRINT 1-6 LOADS DATA ON IP 12***	MLETE1010
277	300 IF (IP(12))3000,3000,300	
278	3000 WRITE (6,301)	MLETE1025
279	301 FORMAT (10H0	MLETE1030
280	1*,10H0	MLETE1040
281	2URE5**72H0 STA	MLETE1050
282	3-MEM 1-MEM 1	MLETE1060
283	302 FORMAT (1H 3X,12,70,1,F12.1,F11.1,F11.1,F12.1,F11.1)	MLETE1070

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINE MODULE -
CARD NO	CONTENTS		
284	C		MLET1000
285	DO 383 N=1,11		MLET1000
286	WRITE (6,382)N,TMO(N+162),TMO(N+174),TMO(N+186),TMO(N+198),TMO(N+210),TMO(N+222)		MLET1100
287	110),TMO(N+222)		MLET1110
288	383 CONTINUE		MLET1120
289	C		MLET1130
290	C	**PRINT FLAP DETAILS**	MLET1140
291	IF (CCM(46) + CCM(47) + CCM(48) + CCM(49)) 384,388,384		MLET1150
292	384 WRITE (6,310)NCABE,IR(1),1-1,16)		
293	C		MLET1160
294	WRITE (6,395)		MLET1160
295	385 FORMAT (50H0	***TRAILING EDGE DEVICE COMPONENTS	ET1200
296	1, //10H	MT-LB/AV	ET1210
297	2A-B/AV YC(18P) XCO(1FS) YCO(1ST) XCO(1ST))		ET1220
298	C		MLET1230
299	3850 FORMAT (32H	/PANELS /	F10.2,F10.3,F12.3,4F10MLET1240
300	1.2)		MLET1250
301	3851 FORMAT (32H	/SUPPORTS /	F10.2,F10.3,F12.3,4F10MLET1260
302	1.2, /)		MLET1270
303	3852 FORMAT (32H	*DEV AREA-TOTAL*	F10.2,F10.3,F12.3)
304	3853 FORMAT (32H	-PANEL	F10.2,F10.3,F12.3, /)
305	C		MLET1290
306	C		MLET1300
307	DO 307 N=1,4		MLET1310
308	IF (CCT(N+65)) 307,307,308		MLET1320
309	308 I = N + 10(2)		MLET1330
310	IF (CCM(N+45) - D(1)) 3080,3081,3082		MLET1340
311	3080 WRITE (6,331)I,TE(N+16),TE(N+20),TST(N+24),TE(N+24),TE(N+28),TE(N+32)		MLET1350
312	132),TE(N+36)		MLET1360
313	GO TO 3087		MLET1370
314	3081 WRITE (6,332)I,TE(N+16),TE(N+20),TST(N+24),TE(N+24),TE(N+28),TE(N+32)		MLET1380
315	132),TE(N+36)		MLET1390
316	GO TO 3087		MLET1400
317	3082 IF (D(2) - CCM(N+45)) 3083,3080,3080		MLET1410
318	3083 IF (D(5) - CCM(N+45)) 3084,3085,3086		MLET1420
319	3084 WRITE (6,337)I,TE(N+16),TE(N+20),TST(N+24),TE(N+24),TE(N+28),TE(N+32)		MLET1430
320	132),TE(N+36)		MLET1440
321	GO TO 3087		MLET1450
322	3085 WRITE (6,338)I,TE(N+16),TE(N+20),TST(N+24),TE(N+24),TE(N+28),TE(N+32)		MLET1460
323	132),TE(N+36)		MLET1470
324	GO TO 3087		MLET1480
325	3086 WRITE (6,335)I,TE(N+16),TE(N+20),TST(N+24),TE(N+24),TE(N+28),TE(N+32)		MLET1490
326	132),TE(N+36)		MLET1500
327	3087 WRITE (6,3850)TST(N+18),CCT(N+71),TST(N+24),CCT(N+95),CCT(N+101),TMO(N+73),TE(N+77)		MLET1510
328	TE(N+73),TE(N+77)		MLET1520
329	WRITE (6,3851)TE(N+40),TE(N+44),TST(N+24),TE(N+48),TE(N+52),TE(N+56)		MLET1530
330	16),TE(N+60)		MLET1540
331	GO TO 307		MLET1550
332	C		MLET1560
333	C	**D/S, T/S FLAPS**	MLET1570
334	3880 WRITE (6,333)I,TE(N+16),TE(N+20),TST(N+24),TE(N+24),TE(N+28),TE(N+32)		MLET1580
335	132),TE(N+36)		MLET1590
336	GO TO 3070		MLET1600
337	3880 WRITE (6,334)I,TE(N+16),TE(N+20),TST(N+24),TE(N+24),TE(N+28),TE(N+32)		MLET1610
338	132),TE(N+36)		MLET1620
339	3870 WRITE (6,3850)TST(N+18),CCT(N+71),TST(N+24),CCT(N+95),CCT(N+101),TMO(N+73),TE(N+77)		MLET1630
340	TE(N+73),TE(N+77)		MLET1640
341	WRITE (6,3851)TE(N+40),TE(N+44),TST(N+24),TE(N+48),TE(N+52),TE(N+56)		MLET1650
342	16),TE(N+60)		MLET1660
343	WRITE (6,3852)TE(N+16),TE(N+20),TE(N+24)		MLET1670
344	WRITE (6,3853)TST(N+18),TE(N+20),TE(N+24)		MLET1680
345	387 CONTINUE		MLET1690
346	C		MLET1700
347	C		MLET1700
348	C	***EXIT***	MLET1701
349	389 RETURN		MLET1700
350	END		MLET1700
351	*****		
352	C		
353	C	*****SUBROUTINE GENTL*****	
354	C	***TORQUE-BOM, LE, TE GEOMETRY DATA SETUP FOR ST ANALYSIS***	

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
365	C		
366	C		
367	C		
368	SUBROUTINE GCNLT		GCNT0010
369	C		GCNT0020
370	C	***CONTROL ROUTINE FOR LE, TE MT, MT, DIST. AND INERTIA.	GCNT0030
371	C	*SETUP GEOMETRY STORAGE AND CALC. GENL DATA*	GCNT0040
372	COMMON T		GCNT0050
373	COMMON /IPRINT/ IP(80)		GCNT0051
374	C		GCNT0060
375	DIMENSION T(6220),D(2000),CD(2000),ND(100),DC(100),		GCNT0070
376	YS(11),YTB(12),TX(1500),		GCNT0071
377	ZT(350),TOT(400),YC(150),TT(24),TGA(135),		GCNT0072
378	BT(400),CCL(8),SIND(8),COS(8)		GCNT0073
379	C		GCNT0074
370	EQUIVALENCE (D(1),T(206)),(CD(1),T(412)),(ND(1),T(612)),		GCNT0080
371	(DC(1),D(140)),(TX(0),T(50)),(YS(1),TX(490)),		GCNT0081
372	Z(TB(1),TX(0)),(T(0),T(100)),(TOT(1),T(130)),(TT(1),T(411)),		GCNT0082
373	YC(1),T(201)),(COTEA,T(152)),(TAND(1),T(122)),(CCL(1),T(131)),		GCNT0083
374	SIND(1),T(140)),(COS(1),T(148)),(TGA(1),T(109)),		GCNT0084
375	SIBOE,T(121),OSIOR,T(151),		GCNT0085
376	(MVID,T(57)),(SPLE,T(25)),(SPTE,T(26)),		GCNT0086
377	B(1,ND(8)),(M,P(27)),(K,ND(20))		GCNT0089
378	C		GCNT0090
379	C		GCNT0091
380	C		GCNT0100
381	C	***MOVE BOX DATA AND CALC. RECD GEOM. DATA**	GCNT0100
382	C	*LE, TE HEIGHT DIST. AND INTEG. DATA*	GCNT0170
383	100 TO(104) = DC(3)		GCNT0180
384	TO(117) = DC(3)		GCNT0180
385	TO(130) = DC(3)		GCNT0200
386	TO(143) = DC(3)		GCNT0210
387	TO(156) = DC(3)		GCNT0220
388	TO(169) = DC(3)		GCNT0230
389	TO(184) = DC(3)		GCNT0240
390	TO(196) = DC(3)		GCNT0250
391	TO(203) = DC(3)		GCNT0260
392	DO 110 I=1,11		GCNT0270
393	TO(I+11) = YTB(11)		GCNT0280
394	TO(I+22) = YTB(I+11)		GCNT0290
395	TO(I) = YS(1)		GCNT0300
396	IF (1 - ND(1)) 103,104,104		GCNT0310
397	103 TO(I+3) = YTB(I+01)		GCNT0320
398	TO(83) = TO(83) + TO(I+83)		GCNT0330
399	TO(I+95) = YTB(I+103)/COS(13)		GCNT0340
400	TO(I+57) = YTB(I+103)		GCNT0350
401	TO(I+69) = YTB(I+114)		GCNT0360
402	GO TO 105		GCNT0370
403	104 TO(56) = TO(11)		GCNT0380
404	TO(88) = TO(22)		GCNT0390
405	TO(80) = TO(33)		GCNT0400
406	105 TO(I+81) = TO(I+80) - COTEA*TO(I+57)		GCNT0410
407	TO(I+205) = YTB(I+23)		GCNT0420
408	TO(I+276) = YTB(I+35)		GCNT0430
409	TO(I+287) = YTB(I+47)		GCNT0440
410	C		GCNT0450
411	C	*STRUCT CUTS AT YEA,NEA*	GCNT0460
412	106 TT(1) = TO(I+11)		GCNT0470
413	TT(2) = TO(I+22)		GCNT0480
414	C		
415	IF (1 - 1/5001,5001,5005		
416	5001 1/7(1/6)1/5002,5002,5005		
417	5002 WRITE(6,5003)		
418	5003 FORMAT(1H,70X,30H** CTOTI (CALL? FROM GCNLT) - IP(8) **)		
419	C		
420	5005 CALL CTOTI		
421	C	*SAVE STRUCT DATA FOR AREA CALC. 11X24 IN TEMP ARRAY TOTCNT0500	
422	N = 1+24-24		GCNT0510
423	DO 107 K=1,24		GCNT0520
424	N = N+ND(1)		GCNT0530
425	TOT(N) = YC(K)		GCNT0540

CARD NO	CONTENTS	GCNT
187	CONTINUE	GCNT0950
C	"PHONE AERO DATA"	GCNT0960
188	TO(1+195) = VC(1)	GCNT0970
189	TO(1+186) = VC(3)	GCNT0980
190	TO(1+177) = VC(3) - VC(1)	GCNT0990
191	TO(1+218) = VC(5)	GCNT1000
192	TO(1+201) = VC(7)	GCNT1010
193	TO(1+232) = VC(7) - VC(5)	GCNT1020
194	TO(1+33) = VC(20)	GCNT1030
195	IF (1+40(2)) 100,109,109	GCNT1040
C		GCNT1049
C	"STATION 1"	GCNT1050
100	TO(45) = TO(1)	GCNT1060
101	TO(57) = TO(12)	GCNT1070
102	TO(80) = TO(23)	GCNT1080
103	TO(81) = TO(34)	GCNT1090
104	GO TO 110	GCNT1100
C		GCNT1110
C	"STATION 2-11. CALC AERO AREAS. 90.FT/SIDE"	GCNT1120
109	TT(3) = (TO(1+11) - TO(1+10))/D(17)	GCNT1130
110	TO(1+180) = TT(3)*(TO(1+170) + TO(1+177))	GCNT1140
111	TO(1+243) = TT(3)*(TO(1+231) + TO(1+232))	GCNT1150
112	TO(1+199) = TT(3)*(VC(3) - VC(2) + TOT(N-45) - TOT(N-46))	GCNT1160
113	TO(1+234) = TT(3)*(VC(8) - VC(5) + TOT(N-42) - TOT(N-43))	GCNT1170
114	TO(180) = TO(180) + TO(1+180)	GCNT1180
115	TO(200) = TO(200) + TO(1+199)	GCNT1190
116	TO(244) = TO(244) + TO(1+243)	GCNT1200
117	TO(255) = TO(255) + TO(1+254)	GCNT1210
C		GCNT1220
C	"BASIC STRUCT LE AND TE AREAS"	GCNT1230
118	TT(3) = TT(3)/COS(3)/COS(3)	GCNT1240
119	TO(1+103) = TT(3)*(VC(20) - VC(10) + TOT(N-20) - TOT(N-30))	GCNT1250
120	TO(1+110) = TT(3)*(VC(20) - VC(10) + TOT(N-20) - TOT(N-20))	GCNT1260
121	TO(1+120) = TT(3)*(VC(24) - VC(22) + TOT(N-24) - TOT(N-25))	GCNT1270
122	TO(1+142) = TT(3)*(VC(23) - VC(22) + TOT(N-25) - TOT(N-26))	GCNT1280
C	"DELETE CARDS 0900-09. "	GCNT1290
119	CONTINUE	GCNT12930
C		GCNT12940
C	"ADJUST LE,TE STRUCT. AREAS FOR SHEEP AND STATION CUTS"	GCNT12950
C	"ACCOUNT FOR 12 AREAS FOR LE AND TE"	GCNT12960
C	"1-10-STRUCT PW. CUTS. 11-INBD, 12- OUTBD."	GCNT12970
120	DO 121 I=1,2	GCNT12980
121	TO(1+114) = DC(3)	GCNT12990
122	TO(1+127) = DC(3)	GCNT13000
123	TO(1+140) = DC(3)	GCNT13010
124	TO(1+153) = DC(3)	GCNT13020
121	CONTINUE	GCNT13030
C		GCNT13039
C	"CALC INBD AND OUTBD STRUCT STRIP FOR LE, TE."	GCNT13040
122	DO 123 I=1,3	GCNT13050
123	TT(1+3) = D(10)*(TOT(4) - TOT(1))/D(17)*(TOT(1+10) - TOT(14))	GCNT13060
124	TT(1+6) = D(10)*(VC(4) - VC(1))/D(17)*(VC(1+10) - VC(14))	GCNT13070
125	TT(1+10) = D(10)*(TOT(14) - TOT(4))/D(17)*(TOT(1+14) - TOT(14))	GCNT13080
126	TT(1+12) = D(10)*(VC(14) - VC(4))/D(17)*(VC(1+14) - VC(14))	GCNT13090
123	CONTINUE	GCNT13100
C		GCNT13110
C	"LE,TE AREAS"	GCNT13120
124	DO 124 I=1,2	GCNT13130
125	TT(1+15) = TT(1+3) - TT(6)	GCNT13140
126	TT(1+17) = TT(1+6) - TT(6)	GCNT13150
127	TT(1+19) = TT(1+10) - TT(10)	GCNT13160
128	TT(1+21) = TT(1+13) - TT(13)	GCNT13170
124	CONTINUE	GCNT13180
C	"DELETE CARDS 1100-1230"	GCNT13190
C		GCNT13199
C	"TEST EA"	GCNT13200
125	IF (TAND(3)) 170,100,130	GCNT13200
C		GCNT13270
C	"POSITIVE EA"	GCNT13280
C	"FOR LE ADJUST (10), TEST (6), ADD RT(11), 12=0"	GCNT13290
C	"FOR TE ADJUST (1), TEST (2,3), ADD TTP(12), 11=0"	GCNT13300

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
407	130	TO(115) = TT(116)	GCNT1310
408		TO(120) = TT(117)	GCNT1320
409		TO(142) = -TT(23)	GCNT1330
500		TO(195) = -TT(22)	GCNT1340
501	C		GCNT1350
502	C	**TEST FOR LE TIP PNL 10 AND 9**	GCNT1360
503		IF (TOT(227) - VC(14)) 131,131,132	GCNT1370
504	C		GCNT1370
505	C	4LE(10) ONLY*	GCNT1380
506	131	TO(114) = TO(114) - TT(18)	GCNT1390
507		TO(127) = TO(127) - TT(19)	GCNT1400
508		GO TO 140	GCNT1410
509	C		GCNT1410
510	C	**PNL 9 AND 10*	GCNT1420
511	132	TT(24) = VC(14)*COTEA + TO(43)	GCNT1430
512		TT(4) = D(18)*(TOT(227) - VC(14))/D(17)*(TT(24) - VC(11))	GCNT1440
513		TT(5) = D(18)*(TOT(220) - VC(14))/D(17)*(TT(24) - VC(2))	GCNT1450
514	C		GCNT1450
515	C	**TEST LOC OF CHORD 10.*	GCNT1460
516		IF (VC(14) - TOT(220)) 133,133,134	GCNT1470
517	C		GCNT1470
518	C	**PNL 10-8, ADJUST PANEL 9*	GCNT1480
519	133	TO(113) = TO(113) + TO(114) - TT(18)	GCNT1490
520		TO(126) = TO(126) + TO(127) - TT(19)	GCNT1500
521		TO(114) = DC(3)	GCNT1510
522		TO(127) = DC(3)	GCNT1520
523		GO TO 140	GCNT1530
524	C		GCNT1540
525	C	**PNL 10 NOT 8, ADJUST PNL 9. TEST LOC OF CHORD 10.*	GCNT1550
526	134	IF (VC(14) - TOT(220)) 135,135,136	GCNT1560
527	135	TO(114) = TO(114) - TT(18) + TT(4)	GCNT1570
528		TO(127) = TO(127) - TT(19) + TT(5)	GCNT1580
529		TO(113) = TO(113) - TT(4) + TT(5)	GCNT1590
530		TO(126) = TO(126) - TT(5)	GCNT1600
531		GO TO 140	GCNT1610
532	136	TO(127) = TO(127) - TT(19)	GCNT1620
533		TO(114) = TO(114) - TT(18) + TT(4)	GCNT1630
534		TO(113) = TO(113) - TT(4)	GCNT1640
535	C		GCNT1650
536	C	**TE FOR POSITIVE EA. CALC AREAS ARE NEGATIVE**	GCNT1660
537	C	*CHECK ROOT(1,2,3) PNLS FOR ADJUSTMENT*	GCNT1670
538	C		GCNT1680
539	140	DO 145 1-1,3	GCNT1690
540		TT(1+5) = DC(3)	GCNT1700
541		TT(1+6) = DC(3)	GCNT1710
542		TT(1+14) = DC(3)	GCNT1720
543		TT(1+17) = DC(3)	GCNT1730
544		TT(1+11) = TOT(14)*COTEA + TO(1+34)	GCNT1740
545		N = 1+24	GCNT1750
546		TT(4) = TOT(N+15) - TOT(14)	GCNT1760
547		IF (TT(4)) 142,142,141	GCNT1770
548	141	TT(1+14) = D(18)*TT(4)/D(17)*(TT(1+11) - TOT(5))	GCNT1780
549	142	TT(4) = TOT(N+18) - TOT(14)	GCNT1790
550		IF (TT(4)) 144,144,143	GCNT1800
551	143	TT(1+17) = D(18)*TT(4)/D(17)*(TT(1+11) - TOT(6))	GCNT1810
552	C		GCNT1810
553	C	*SUM AREAS 1,2,3*	GCNT1820
554	144	TT(1+5) = TT(1+14) - TT(1+17)	GCNT1830
555	145	CONTINUE	GCNT1840
556	C		GCNT1840
557	C	AREA 2 AND 3	GCNT1850
558		TT(8) = TT(8) - TT(7)	GCNT1860
559		TT(7) = TT(7) - TT(6)	GCNT1870
560	C		GCNT1880
561	C	*CRANKED TC, A/T TRIANGLES**	GCNT1890
562	146	DO 150 1-1,3	GCNT1900
563		TT(1+17) = DC(3)	GCNT1910
564		N = 1+24	GCNT1920
565		IF (TOT(14) - TOT(N+15)) 147,150,150	GCNT1930
566	C		GCNT1930
567	C	**CALC EQU. OF CURT LINE FOR PANEL 10**	GCNT1940

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MIND AND EMPHASIS MODULE -
CARD NO	****	CONTENTS	****
569	147 TT(4) = TOT(4)-17) - TOT(4)-7)		GCNT1950
570	TT(5) = TOT(4)-24) - TOT(4)		GCNT1960
571	TT(21) = TT(5)/TT(4)		GCNT1970
572	TT(22) = TOT(4) - TT(21)*TOT(4)-7)		GCNT1980
573	TT(23) = TOT(4)*TT(21) + TT(22)		GCNT1990
574	C		GCNT2000
575	C	"BASIC AFT TRIANGLE"	GCNT2010
576	TT(4) = TOT(4)-17) - TOT(4)		GCNT2020
577	IF (TT(4)) 140,140,140		GCNT2030
578	140 TT(1)-17) = D(18)*TT(4)/D(17)*(TT(1)-11) - TT(23))		GCNT2040
579	140 TT(1)-8) = TT(1)-14) - TT(1)-17)		GCNT2050
580	C		GCNT2060
581	C	"TEST PANEL NO." 15 OK"	GCNT2070
582	IF (IND(2) - 1) 150,150,150		GCNT2080
583	C		GCNT2090
584	C	"PANEL 2 AND 3	GCNT2100
585	150 TT(24) = D(13)		GCNT2110
586	TT(5) = TT(1)-10) - TT(23)		GCNT2120
587	IF (TT(5)) 153,153,152		GCNT2130
588	152 TT(24) = D(18)*TT(5)/D(17)*(TT(22) - TOT(1)-33)/COTEA - TT(21))		GCNT2140
589	1- TOT(14))		GCNT2150
590	C		GCNT2160
591	C	"SUM PNL 2 AND 3"	GCNT2170
592	153 TT(1)-8) = TT(1)-8) - TT(1)-13) + TT(24)		GCNT2180
593	150 CONTINUE		GCNT2190
594	C		GCNT2200
595	C	"MOVE PANEL AREAS"	GCNT2210
596	160 GO 161 1-1,3		GCNT2220
597	161 TT(1)-130) = TT(1)-8)		GCNT2230
598	162 TT(1)-143) = TT(1)-8)		GCNT2240
599	163 CONTINUE		GCNT2250
600	GO TO 160		GCNT2260
601	C		GCNT2270
602	C	"NEGATIVE EA"	GCNT2280
603	C	"LE(11) AND TE(12)=0. LE(12) AND TE(11) NOT ZERO."	GCNT2290
604	C	"ADJUST LE(1,2,3) AND TE(8,10)"	GCNT2300
605	170 TO(118) = -TT(18)		GCNT2310
606	TO(120) = -TT(19)		GCNT2320
607	TO(141) = TT(21)		GCNT2330
608	TO(154) = TT(20)		GCNT2340
609	C		GCNT2350
610	C	"TE TIP. PNL 9 AND 10"	GCNT2360
611	IF (TOT(233) - YC(14)) 171,171,172		GCNT2370
612	C	"PNL 10 ONLY"	GCNT2380
613	171 TO(140) = TO(140) - TT(21)		GCNT2390
614	TO(153) = TO(153) - TT(20)		GCNT2400
615	GO TO 170		GCNT2410
616	C		GCNT2420
617	C	"PNLS 9,10. CALC CHORD 10 INTERSECTION WITH YEA(11)"	GCNT2430
618	172 TT(24) = YC(14)*COTEA + TO(43)		GCNT2440
619	TT(4) = D(18)*(TOT(233) - YC(14))/D(17)*(YC(17) - TT(24))		GCNT2450
620	TT(5) = D(18)*(TOT(232) - YC(14))/D(17)*(YC(16) - TT(24))		GCNT2460
621	C		GCNT2470
622	C	"TEST LOC OF CHORD 10 INTERSECTION. RS AND TET"	GCNT2480
623	IF (YC(14) - TOT(231)) 173,173,173		GCNT2490
624	C		GCNT2500
625	C	"PNL 10-0. ADJUST 9."	GCNT2510
626	173 TO(130) = TO(130) + TO(140) - TT(21)		GCNT2520
627	TO(152) = TO(152) + TO(153) - TT(20)		GCNT2530
628	TO(140) = D(13)		GCNT2540
629	TO(153) = D(13)		GCNT2550
630	GO TO 170		GCNT2560
631	C		GCNT2570
632	C	"PNL 10 NOT 2440. ADJ. 10 AND 9. TEST TET(11) LOC"	GCNT2580
633	174 IF (YC(14) - TOT(232)) 174,174,175		GCNT2590
634	174 TO(140) = TO(140) - TT(21) + TT(4)		GCNT2600
635	TO(153) = TO(153) - TT(20) + TT(5)		GCNT2610
636	TO(130) = TO(130) - TT(4) + TT(5)		GCNT2620
637	TO(152) = TO(152) - TT(5)		GCNT2630
638	GO TO 170		GCNT2640
639	175 TO(153) = TO(153) - TT(20)		GCNT2650

CARD NO	INPUT LISTING	CONTENT	****
030		TO(140) = TO(140) - TT(21) + TT(4)	SCNT2500
040		TO(130) = TO(130) - TT(4)	SCNT2500
041	C		SCNT2600
042	C	*4E FOR NEGATIVE EA.**	SCNT2610
043	170 DO 170 I=1,3		SCNT2620
044		TT(1+0) = DC(3)	SCNT2630
045		TT(1+0) = DC(3)	SCNT2640
046		TT(1+14) = DC(3)	SCNT2650
047		TT(1+10) = DC(3)	SCNT2660
048		TT(1+11) = TO(14)*COTEA + TO(1+34)	SCNT2670
049		N = 1404	SCNT2680
050		TT(4) = TOT(N+13) - TOT(14)	SCNT2690
051		IF (TT(4)) 1770,1770,177	SCNT2700
052	177 TT(1+0) = D(10)*TT(4)/D(17)*(TT(1+11) - TOT(3))		SCNT2710
053	1770 TT(4) = TOT(N+12) - TOT(14)		SCNT2720
054		IF (TT(4)) 170,170,1771	SCNT2730
055	1771 TT(1+17) = D(10)*TT(4)/D(17)*(TT(1+11) - TOT(2))		SCNT2740
056	C		SCNT2750
057	C	*SUM AREAS 1,2,3*	SCNT2760
058	170 TT(1+0) = TT(1+14) - TT(1+17)		SCNT2770
059	170 CONTINUE		SCNT2780
060	C		SCNT2790
061	C	*DO PALS 2 AND 3**	SCNT2800
062		TT(0) = TT(0) - TT(7)	SCNT2810
063		TT(7) = TT(7) - TT(0)	SCNT2820
064	C		SCNT2830
065	C	**BLENDED LE AREAS**	SCNT2840
066	100 DO 107 I=1,3		SCNT2850
067		TT(1+17) = DC(3)	SCNT2860
068		N = 1404	SCNT2870
069		IF (TOT(14) - TOT(N+13)) 101,107,107	SCNT2880
070	101 TT(4) = TOT(N+11) - TOT(N+13)		SCNT2890
071		TT(5) = TOT(N+24) - TOT(N+6)	SCNT2900
072		TT(21) = TT(5)/TT(4)	SCNT2910
073		TT(22) = TOT(N+5) - TT(21)*TOT(N+13)	SCNT2920
074		TT(23) = TO(14)*TT(21) + TT(22)	SCNT2930
075		TT(4) = TOT(N+11) - TOT(14)	SCNT2940
076		IF (TT(4)) 103,103,102	SCNT2950
077	102 TT(1+17) = D(10)*TT(4)/D(17)*(TT(1+11) - TT(23))		SCNT2960
078	103 TT(1+0) = TT(1+14) - TT(1+17)		SCNT2970
079		IF (ND(2) - 1) 104,104,107	SCNT2980
080	C		SCNT2990
081	C	*PALS 2,3*	SCNT3000
082	104 TT(24) = DC(3)		SCNT3010
083		TT(5) = TT(1+10) - TT(23)	SCNT3020
084		IF (TT(5)) 100,100,105	SCNT3030
085	105 TT(24) = D(10)*TT(5)/D(17)*(TT(22) - TO(1+33))/(COTEA - TT(21)) - TOT(14)		SCNT3040
086			SCNT3050
087	C		SCNT3060
088	C	*SUM PALS 2 AND 3*	SCNT3070
089	100 TT(1+0) = TT(1+0) - TT(1+13) + TT(24)		SCNT3080
090	107 CONTINUE		SCNT3090
091	C		SCNT3100
092	C	*MOVE PANEL AREAS**	SCNT3110
093	100 DO 100 I=1,3		SCNT3120
094		TO(1+104) = TT(1+0)	SCNT3130
095		TO(1+117) = TT(1+5)	SCNT3140
096	100 CONTINUE		SCNT3150
097	C		SCNT3160
098	C	*SUM STRUCT PALS AREAS**	SCNT3170
099	100 DO 1000 I=1,12		SCNT3180
700		TO(104) = TO(104) + TO(1+104)	SCNT3190
701		TO(117) = TO(117) + TO(1+117)	SCNT3200
702		TO(130) = TO(130) + TO(1+130)	SCNT3210
703		TO(143) = TO(143) + TO(1+143)	SCNT3220
704	1000 CONTINUE		SCNT3230
705	C		SCNT3240
706	C		SCNT3250
707	C	*CALC LOADS STATIONS FOR HEIGHT INTEGRATION**	SCNT3260
708	C	*10 PANELS, 11 EQUALLY SPACED STATIONS.*	SCNT3270
709	C	*PANEL REF POINT AT MID-STATION. CALC AERO COORD. ONLY*SCNT3100	SCNT3280

CARD NO	CONTENTS	
710	TT(24) = (802 - 85102)/D(10)	SCNT3170
711	TGA(1) = 85102	SCNT3180
712	TGA(12) = TGA(1)*TAND(3) + CCL0(3)	SCNT3190
713	DO 101 I=1,10	SCNT3200
714	TGA(1+I) = TGA(1) + TT(24)	SCNT3210
715	TGA(1+12) = TGA(1+1)*TAND(3) + CCL0(3)	SCNT3220
716	TGA(1+22) = TGA(1) + TT(24)/D(2)	SCNT3230
717	TGA(1+32) = TGA(1+22)*TAND(3) + CCL0(3)	SCNT3240
718	101 CONTINUE	SCNT3250
719	C	SCNT3260
720	C ***SAVE TOTAL EXPOSED .LE. TC AREA/SG FT/AV***	SCNT3270
721	C	SCNT3280
722	SPLE = T0(109)*D(2)/AMVID	SCNT3290
723	SPTE = T0(244)*D(2)/AMVID	SCNT3300
724	C	SCNT3310
725	C	SCNT3320
726	C ***BK PRINT TEST FOR TO AND TGA ARRAYS***	SCNT3330
727	200 IF(IP(8))201,201,200	SCNT3340
728	201 WRITE (6,900)	SCNT3350
729	800 FORMAT (30H) ***SCNTL SUBR. TO AND TGA ARRAYS***,52X	SCNT3360
730	I 10H** SCNTL - IP(8) **,//BH TO)	SCNT3370
731	C	SCNT3380
732	802 FORMAT (1H 14,SE10.0)	SCNT3390
733	806 FORMAT (8H TGA)	SCNT3400
734	DO 801 N=1,300,5	SCNT3410
735	K = N+D(4)	SCNT3420
736	WRITE (6,902)N,(T0(1),I=N,K,1)	SCNT3430
737	801 CONTINUE	SCNT3440
738	WRITE (6,905)	SCNT3450
739	DO 804 N=1,125,5	SCNT3460
740	K = N+D(4)	SCNT3470
741	WRITE (6,902)N,(TGA(1),I=N,K,1)	SCNT3480
742	804 CONTINUE	SCNT3490
743	C	SCNT3500
744	C	SCNT3510
745	C 'EXIT'	SCNT3520
746	700 RETURN	SCNT3530
747	END	SCNT3540
748	C***	
749		
750	C *****SUBROUTINE LENT*****	
751	C ***LE MEIGH AND DISTRIBUTION EVALUATION***	
752	C	
753	C*****	
754	C	
755	SUBROUTINE LENT	LENT0010
756	C	LENT0020
757	C ***LE STRUCTURE GEOMETRY, MT. EST., DIST., CG AND INERTIA***	LENT0030
758	C	LENT0040
759	COMMON T	LENT0050
760	COMMON /IPRINT/ IP(80)	LENT0060
761	C	LENT0070
762	MEASION T(8220),D(2000),CD(2000),ND(100),DC(100),	LENT0080
763	I(150),TT(24),T0(300),TND(450),TTC(60),	LENT0090
764	STST(50),TOR(100),CCM(50),CC(1300),CCL(300),	LENT0100
765	STAND(50),CCL0(50),SIND(50),COSO(50),	LENT0110
766	SOLE(30),DLED(30),DLEDK(50),DINT(112),TLED(15)	LENT0120
767	C	LENT0130
768	EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(8121)),	LENT0140
769	I(DC(1),D(1401)),(TTC(1),T(201)),(TT(1),T(411)),(T0(1),T(1001)),	LENT0150
770	2(TND(1),T(1301)),(STST(1),T(1701)),(TOR(1),T(1751)),	LENT0160
771	3(CCM(1),CD(1)),(CC(1),CD(1051)),(CCL(1),CD(51)),(TTC(1),T(251)),	LENT0170
772	4(DLED(1),D(1205)),(DLED(1),D(1900)),(DLEDK(1),D(1530)),	LENT0180
773	5(DINT(1),D(1143)),	LENT0190
774	6(TLED(1),TOR(51)),(DINTD,D(200)),	LENT0200
775	7(802,T(12)),(85102,T(15)),	LENT0210
776	8(TAND(1),T(1201)),(CCL0(1),T(131)),(SIND(1),T(1401)),	LENT0220
777	9(COSO(1),T(140)),(COTEA,T(152))	LENT0230
778	EQUIVALENCE (U,THE2,D(205)),(WAREA,D(240)),(WVL,D(87)),	LENT0240
779	(I(804),D(105)),	LENT0250
780	8(I,ND(201)),(N,ND(271)),(K,ND(301)),(H,ND(311)),(L,ND(20))	LENT0260

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WIND AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
701	C		LEMT0110
702	C	"CLEAR STORAGE"	LEMT0120
703	100	DO 101 I=1,300	LEMT0130
704		CC(11) = DC(3)	LEMT0140
705	101	CONTINUE	LEMT0150
706		DO 102 I=1,400	LEMT0160
707		TM(1) = DC(3)	LEMT0170
708	102	CONTINUE	LEMT0180
709		DO 103 I=1,50	LEMT0190
710		CCM(1) = DC(3)	LEMT0200
711	103	CONTINUE	LEMT0210
712	C		LEMT0220
713	C	"DEFINED LE WEIGHT ESTIMATE. BASIC W/B DELTA DUE TO DEV."	LEMT0221
714	C	"CALC DATA IN CCM(130-139). W/S=LB/IN SQ."	LEMT0222
715	C	"TEST FOR WIND, MORI, VERT. MOVE DATA."	LEMT0223
716		K = MD(1)	LEMT0225
717		IF (DM(10) 1031,1032,1033)	LEMT0226
718		1030 K = K + MD(1)	LEMT0230
719		1031 K = K + MD(1)	LEMT0231
800		1032 N = K+MD(10) - MD(10)	LEMT0232
801		DO 1033 I=1,10	LEMT0235
802		L = N + I	LEMT0236
803		TLED(1) = BLE(L)	LEMT0237
804		1033 CONTINUE	LEMT0240
805	C		LEMT0250
806	C		LEMT0260
807	C	"ESTIMATE W/S."	LEMT0265
808		W/S=MD(11)+MD(12)/W/S(10). W/S(10)=C(1,C2,C3,BL,CLE)	LEMT0266
809	C	"CLE(100) = TRAP. C AT .5 EMP. BOX SPAN"	LEMT0268
810	C		LEMT0269
811		1030 TY(1) = (TG(12) + TG(22))/D(2)	LEMT0270
812		TY(2) = DC(3)	LEMT0280
813	C		
814		IF (IP(10) 5001,5002,5005)	
815		5002 WRITE(6,5003)	
816		5003 FORMAT(1H1,70X,2H** CTOT1 (CALLED FROM LEMT) - IP(10) **)	
817	C		
818		5005 CALL CTOT1	
819		CC(1300) = VC(3) - VC(2)	LEMT0290
820	C		LEMT0291
821	C	"**TEST FOR INPUT W/S**"	LEMT0292
822		CC(1297) = TLED(1)	LEMT0293
823		IF (TLED(1)) 104,104,105	LEMT0295
824	C		LEMT0298
825	C	"TEST COMPONENT FOR CORRECT W/S(10) EQUATION"	LEMT0299
826		104 IF (K - MD(2)) 1040,1041,1041	LEMT0300
827	C		LEMT0308
828		"WIND. W/S= C(1)+C2+0.5/C(1) + C3. S=50.FT/SIDE. C-IN."	LEMT0309
829		1040 CC(1297) = TLED(5)+TLED(6)+QVL/CC(1300)+TG(200) + TLED(7)	LEMT0310
830		DO TO 1042	LEMT0310
831	C		LEMT0318
832	C	"MORI, VERT. TEMP. USE SAME EQU. AS WIND"	LEMT0319
833		1041 CC(1297) = TLED(5)+TLED(6)+QVL/CC(1300)+TG(200) + TLED(7)	LEMT0330
834	C		LEMT0330
835	C	"CALC KIN/W/S"	LEMT0330
836		1042 CC(1298) = TLED(4) + TLED(10)+TLED(10)/VC(31)+TLED(9)	LEMT0340
837	C		LEMT0340
838		CC(1297) = CC(1297)+CC(1298)	LEMT0350
839	C		LEMT0350
840	C	"W/S FINAL LB/SQ.IN."	LEMT0370
841		105 CC(1297) = CC(1297)+TLED(2)/D(17)	LEMT0380
842	C		LEMT0380
843	C	"CHORDWISE CP."	LEMT0370
844		CC(1298) = TLED(3)	LEMT0380
845		CC(1298) = (D(11)+D(12)+CC(1298))/D(31)/D(11)+CC(1298)	LEMT0380
846	C		LEMT0400
847	C	"BASIC DIST. DATA. Z-TOTAL CHORD W/S. CALC MT AND CP Y,LEMT0410	
848		DO 105 I=1,11	LEMT0420
849		TOR(1) = CC(1297)+TG(1177)	LEMT0430
850		CC(1141) = TG(1195)	LEMT0435
851		CC(1142) = TG(1188)	LEMT0435

CARD NO	****	CONTENTS	****
052		IF (1 - MD(1)) 100,100,107	LENT0440
053	107	TT(3) = TO(1+1) - TO(1+10)	LENT0450
054		CC(1) = TT(3)*(TOR(1) + TOR(1+1)/2)	LENT0460
055		CC(1) = CC(1) + CC(1)	LENT0465
056	C		LENT0470
057	C	PANEL DIST. DATA, TAN, CCL, CPX FOR INTEGRATION	LENT0475
058		CC(1+10) = (TOR(1) - TOR(1+1))/TT(3)	LENT0480
059		CC(1+20) = TOR(1+1) - TO(1+10)*CC(1+10)	LENT0485
060		CC(1+30) = CC(1+20)	LENT0490
061	C		LENT0494
062	C	***, PM FOR TOTAL C.O.*	LENT0495
063		TT(4) = TOR(1)/TOR(1+1)	LENT0500
064		TT(5) = TO(1+10) + TT(3)*(D(1) + D(2)*TT(4))/D(3) + D(3)*TT(4)	LENT0505
065		CCM(3) = CCM(3) + TT(5)*CC(1)	LENT0510
066		TT(1) = TT(5)	LENT0515
067		CALL CTOT1	LENT0520
068		TT(6) = VC(1) + CC(1+20)*(VC(3) - VC(1))	LENT0525
069		CCM(32) = CCM(32) + TT(6)*CC(1)	LENT0530
070	100	CONTINUE	LENT0535
071	C		LENT0539
072	C	***MOVE LE DATA*	LENT0540
073		CCM(17) = TO(100)	LENT0545
074		CCM(18) = TO(100)	LENT0550
075		CCM(25) = TO(200)	LENT0555
076		CCM(3) = CC(1)	LENT0560
077	C		LENT0570
078	C	***DO LE DEVICE MT EST.*	LENT0580
079	110	DO 140 N=1,3	LENT0580
080		DO 111 I=1,50	LENT0600
081		TOR(1) = DC(3)	LENT0605
082		TST(1) = DC(3)	LENT0610
083	111	CONTINUE	LENT0620
084	C		LENT0629
085	C	***MOVE DATA TO WORKING REGION*	LENT0630
086		K = N*MD(17) - MD(10)	LENT0640
087		DO 112 I=1,3	LENT0650
088		K = K+MD(1)	LENT0660
089		TLED(1) = DLED(K)	LENT0670
090	112	CONTINUE	LENT0680
091	C		LENT0680
092	C	***TEST FOR COMPONENT CALC *	LENT0700
093		IF (TLED(1)) 140,140,113	LENT0710
094	113	DO 119 I=1,2	LENT0720
095		TST(1) = TLED(1+2)	LENT0730
096		IF (TLED(1+2) - D(1)) 114,114,115	LENT0740
097	114	TST(1) = TLED(1+2)*002	LENT0750
098	115	TT(1) = TST(1)	LENT0760
099		TT(2) = DC(3)	LENT0770
100		CALL CTOT1	LENT0780
101		TST(1+2) = VC(1)	LENT0790
102		TT(3) = TLED(1+4)	LENT0800
103		IF (ABS(TT(3)) - D(1)) 116,117,117	LENT0810
104	116	TT(3) = TT(3)*VC(9)	LENT0820
105	117	TST(1+4) = VC(2) + TT(3)	LENT0830
106		TST(1+6) = TST(1+4) - TST(1+2)	LENT0835
107	C		LENT0838
108	C	***DELTA FIXED LE CHORD FOR DEVICE. DELTA C INPUT LOCATES LE	LENT0840
109	C	LINE RELATIVE TO TRAP. LE. ***ATT. ***FND. ALL FIXED LE	LENT0850
110	C	HEIGHT TO FND LE IS DELETED.*** PER CENT OF TRAP. C.	LENT0860
111		IF (TLED(1+6)) 110,110,110	LENT0865
112	110	TST(1+42) = TLED(1+6)	LENT0870
113		IF (ABS(TLED(1+6)) - D(1)) 1100,1100,1101	LENT0880
114	1100	TST(1+42) = VC(9)*TLED(1+6)	LENT0890
115	1101	TST(1+42) = VC(2) + TST(1+42)	LENT0900
116		TT(1+10) = VC(3) - VC(1)	LENT0910
117	C		LENT0915
118	110	CONTINUE	LENT0920
119	C		LENT0925
120	C	GENL PANEL DATA	LENT0930
121	120	TST(37) = TST(2) - TST(1)	LENT0940
122		TST(9) = D(10)*TST(37)/D(17)*(TST(7)+TST(8))	LENT0950

06/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP

WING AND EMPENNAGE MODULE -

CARD NO	****	CONTENTS	****
003		TST(11) = (TST(6) - TST(7))/TST(37)	LENT0060
004		TST(12) = TST(7) - TST(11)*TST(11)	LENT0070
005		CC(11)=123) = (TST(4) - TST(3))/TST(37)	LENT0071
006		CC(11)=120) = TST(3) - TST(11)*CC(11)=123)	LENT0072
007		CC(11)=135) = (TST(6) - TST(5))/TST(37)	LENT0073
008		CC(11)=141) = TST(5) - TST(11)*CC(11)=135)	LENT0074
009		CC(11)=195) = CC(11)=123)	LENT0075
010		CC(11)=201) = CC(11)=120)	LENT0076
011		CC(11)=207) = (TST(44) - TST(43))/TST(37)	LENT0077
012		CC(11)=213) = TST(43) - TST(11)*CC(11)=207)	LENT0078
013		TT(4) = TST(6) - TST(5)	LENT0080
014		TST(43) = TST(43) - TST(3)	LENT0081
015		TST(44) = TST(44) - TST(4)	LENT0082
016		TST(10) = SORT(TST(37)*TST(37) + TT(4)*TT(4))	LENT0083
017		TT(5) = TLED(2)	LENT1000
018		IF (TLED(2)) 121,121,122	LENT1010
019		TT(5) = 0(1)	LENT1020
020	121	TST(17) = TST(10)/TT(5)	LENT1030
021		TT(6) = TST(37)/TT(5)	LENT1040
022		TST(23) = TST(1)	LENT1050
023		TST(27) = TST(7)	LENT1060
024	C		LENT1067
025	C	**DEVICE ID = N = TLED(1), 1=BLAT, 2=HULLER, 3=D/HOSE**	LENT1080
026	C	**NAME ID IN COMM(43,44,45) FOR PRINT**	LENT1080
027		123 N = TLED(1)	LENT1070
028		COMM(42) = TLED(1)	LENT1080
029	C		LENT1080
030	C	**MOVE DEVICE DATA TO WORKING REGION**	LENT1080
031		K = N*15 - 15	LENT1080
032		DO 1230 I=1,15	LENT1083
033		L = K + I	LENT1084
034		TLED(1+10) = BLEED(L)	LENT1085
035		1230 CONTINUE	LENT1088
036	C		LENT1088
037	C	**CALC. DEVICE CONSTANTS.NZ.DON/SM, K1+K3+K4**	LENT1100
038		TST(47) = ULTIME/DCHD/AREA	LENT1101
039		TOR(76) = TLED(22) + TLED(23) + TLED(25) + TLED(24) - 0(1) + TLED(13)	LENT1102
040	C		LENT1103
041		TST(42) = TLED(12)	LENT1105
042		TST(41) = 0(1) + TST(42) + TST(42)/(0(3) + 0(3)*TST(42))	LENT1110
043		TT(7) = TST(41)*TST(7) + TST(3)	LENT1120
044		TT(8) = TST(41)*TST(8) + TST(4)	LENT1130
045		TT(9) = (TT(8) - TT(7))/TST(37)	LENT1140
046		TT(10) = TT(7) - TST(11)*TT(8)	LENT1150
047	C		LENT1160
048	C	**TAN AND CCL FOR DELTA LE MT(1) LINE**	LENT1170
049		TST(45) = (TST(44) - TST(43))/TST(37)	LENT1180
050		TST(46) = TST(43) - TST(45)*TST(11)	LENT1190
051	C		LENT1200
052	C	**DO DEVICE SEGMENT ANALYSIS**	LENT1210
053	C	**MAX MD = 3 SEGMENTS**	LENT1220
054	124	K = TT(5)	LENT1230
055		DO 130 I=1,K,1	LENT1240
056		TST(1+23) = TST(1+22) + TT(6)	LENT1250
057		TST(1+27) = TST(1+23)*TST(11) + TST(12)	LENT1260
058		TST(1+13) = 0(10)*TT(6)/0(17) + (TST(1+26) + TST(1+27))	LENT1270
059		TST(1+37) = TST(1+27)/TST(1+26)	LENT1280
060		TST(1+30) = TST(1+22) + TT(6)/0(3) + 0(1) + TST(1+37) + TST(1+37)/LENT1290	LENT1290
061		0(1) + TST(1+37))	LENT1300
062		TST(1+33) = TST(1+30)*TT(6) + TT(10)	LENT1310
063	C		LENT1311
064	C	**SEGMENT T/C AT VCP. T/C LOC. IN VC(31)**	LENT1311
065		TT(1) = TST(1+30)	LENT1312
066		CALL CTOT1	LENT1313
067	C		LENT1310
068	C	**SEGMENT HEIGHTS=1/2 SEG. BECH. CHECK FOR INPUT UNIT MT.	LENT1320
069	C	**ALL HTS TO BE LB/50. FT.	LENT1330
070		TST(1+19) = TLED(9)	LENT1340
071		IF (TLED(9)) 125,125,126	LENT1350
072	C		LENT1360
073	C	**PANEL BECH. CONST. 0=5/8, 5=30.FT/SIDE, 0=4L IN.**	LENT1360

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
004	125 TOR(77) = QNL/TST(13)*TST(13)		LENT1370
005	C		LENT1371
006	C *PANEL K(INDEX) = K1+K2+K3+K4*		LENT1371
007	TOR(78) = TOR(78) + TLED(18)*TLED(21)/YC(31)**TLED(20)		LENT1375
008	C		LENT1376
009	C *TEST TYPE FOR TYPE*		LENT1376
1000	IF (M - MD(2)) 126,127,128		LENT1380
1001	C		LENT1380
1002	C *BLATS. M/S = C112*QDM/S1**C1 + C31C4*Q5/S1**C5*		LENT1380
1003	126 TST(1+10) = TOR(78)*(TLED(14)*TST(47)**TLED(15) + TLED(16)*TLED(16)TLED(1400		
1004	17)*TOR(77)**TLED(18))		LENT1401
1005	GO TO 129		LENT1410
1006	C		LENT1410
1007	C *RUBBER M/S = C112*QDM/S1**C2 + C31C4*Q5/S1**C5*		LENT1420
1008	127 TST(1+10) = TOR(78)*(TLED(14)*TST(47)**TLED(15) + TLED(16)*TLED(16)TLED(1430		
1009	117)*TOR(77)**TLED(18))		LENT1431
1010	GO TO 129		LENT1440
1011	C		LENT1440
1012	C *D.NOSE. M/S = C11C2*Q5/S1**C3 + C41C2*Q5/S1**C5*		LENT1450
1013	128 TST(1+10) = TOR(78)*(TLED(14)*TLED(15)*TOR(77) + TLED(16) + TLED(16)TLED(1460		
1014	17)*TLED(15)*TOR(77)**TLED(18))		LENT1461
1015	C		LENT1470
1016	C *FINAL MT = K(1MT)*(M/S)*SPHL* SUM MTS AND MX,MY*		LENT1480
1017	129 TST(1+10) = TST(1+10)*TLED(18)		LENT1480
1018			LENT1500
1019	TST(1+10) = TST(1+10)*TST(1+13)		LENT1510
1020	TST(40) = TST(40) + TST(1+10)		LENT1520
1021	TST(40) = TST(40) + TST(1+10)*TST(1+30)		LENT1530
1022	TST(50) = TST(50) + TST(1+10)*TST(1+33)		LENT1540
1023	C		LENT1550
1024	130 CONTINUE		LENT1560
1025	C		LENT1570
1026	C *FINAL DEVICE IN DATA. MOVE TO CC(1+29) REGION ON N.		LENT1580
1027	C *CP(X,V) DATA = M*Y, M*X.*		LENT1580
1028	CC(1M+83) = TST(40)		LENT1600
1029	TST(47) = TST(40)/TST(9)		LENT1610
1030	CC(1M+80) = TST(47)		LENT1620
1031	CC(1M+75) = TST(9)		LENT1630
1032	CCM(4) = CCM(4) + TST(40)		LENT1640
1033	CCM(20) = CCM(20) + TST(9)		LENT1650
1034	CCM(33) = CCM(33) + TST(40)		LENT1660
1035	CCM(34) = CCM(34) + TST(50)		LENT1670
1036	CC(1M+83) = TST(40)/TST(40)		LENT1680
1037	CC(1M+80) = TST(50)/TST(40)		LENT1690
1038	CC(1M+81) = TST(1)		LENT1700
1039	CC(1M+87) = TST(2)		LENT1710
1040	C		LENT1720
1041	C *MT DIST. PHL MT, YCG, XCG, Z AT CUTS*		LENT1730
1042	C *CALC ACRO HEIGHT DIST. LESS DELTA LE.*		LENT1740
1043	C *TEST FOR DELTA LE. CLEAR TOR(1+20)*		LENT1744
1044	DO 132 I=1,20		LENT1745
1045	TOR(1) = CC(3)		LENT1746
1046	132 CONTINUE		LENT1747
1047	CC(1M+147) = CC(3)		LENT1748
1048	IF (TST(43)) 136,136,133		LENT1749
1049	133 DO 134 I=1,2		LENT1750
1050	TOR(1+3) = CC(1297) + TT(1+10)		LENT1760
1051	TOR(1+7) = TOR(1+3)/TT(1+10)*D12 1/10(1) + CC(1299)		LENT1770
1052	TOR(1+0) = TOR(1+7)*CC(1299)		LENT1780
1053	TOR(1+11) = TOR(1+7) + TST(1+42)*(TOR(1+0)-TOR(1+7))/TT(1+10)		LENT1790
1054	TOR(1+0) = TST(1+42)*(TOR(1+11)+ TOR(1+7))/D12		LENT1800
1055	TOR(1+0)=TOR(1+11)/TOR(1+7)		LENT1810
1056	TOR(1+13) = TST(1+2) + TOR(1+42)*D11+D12)*TOR(1+10)/D13 + D12LENT1820		
1057	1)*TOR(1+10))		LENT1830
1058	134 CONTINUE		LENT1840
1059	C		LENT1840
1060	C TOTAL DELTA MT AND CG.		LENT1850
1061	TOR(1) = TST(37)*(TOR(16) + TOR(17 1)/D12)*TLED(11)		LENT1860
1062	C		LENT1864
1063	C *TEST FOR DELTA MT=0*		LENT1865
1064	IF (TOR(1)) 134,136,134		LENT1866

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WIND AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
1000	1340 TOR(16) = TOR(7)/TOR(6)		LENT1070
1005	TOR(2) = TST(1) + TST(37)*(D(1)+D(2)*TOR(16))/(D(3)+D(3)*TOR(16))		LENT1080
1007	TOR(3) = TOR(14) + TOR(2) - TST(1)*(TOR(15)-TOR(14))/TST(37)		LENT1090
1008	C		LENT1000
1009	C	*SUBTRACT DELTA MT FROM TOTAL LE HEIGHT. ADJUST LE AREA*	LENT1010
1070	C	*MOVE RECD DATA TO CC REGION	LENT1020
1071	130 CCM(3) = CCM(3) - TOR(1)		LENT1030
1072	CC(N+147) = TOR(1)		LENT1035
1073	CCM(31) = CCM(31) - TOR(1)*TOR(2)		LENT1040
1074	CCM(32) = CCM(32) - TOR(1)*TOR(3)		LENT1050
1075	CC(N+150) = TST(37)*D(19)/D(17)*(TST(43) + TST(44))		LENT1060
1076	CCM(10) = CCM(10) - CC(N+150)		LENT1070
1077	CC(N+177) = (TOR(7) - TOR(6))/TST(37)		LENT1080
1078	CC(N+183) = TOR(6) - CC(N+177)*TST(1)		LENT1090
1079	CC(N+153) = CC(N+147)/CC(N+150)		LENT1000
1080	CC(N+205) = TOR(2)		LENT2010
1081	CC(N+171) = TOR(3)		LENT2020
1082	CC(N+189) = (TOR(17) + TOR(18))/D(2)		LENT2030
1083	C		LENT2040
1084	C	*TOTAL DEVICE TANZ, CZ AND TRX*	LENT2050
1085	130 TOR(37) = (CC(N+93) - TST(1))/TST(37)		LENT2060
1086	TOR(30) = D(51) - D(52)		LENT2070
1087	IF (TOR(37) - TOR(30)) 137,130,130		LENT2080
1088	137 TOR(37) = D(21) + D(52)		LENT2090
1089	IF (TOR(37) - TOR(30)) 130,130,130		LENT2100
1090	130 TOR(37) = TOR(30)		LENT2110
1091	130 TOR(30) = (D(3)*TOR(37) - D(1))/(D(2) - D(3)*TOR(37))		LENT2120
1092	TOR(40) = TST(40)/TST(37)*D(2)/(D(1) + TOR(30))		LENT2130
1093	TOR(41) = TOR(40)*TOR(30)		LENT2140
1094	CC(N+105) = (TOR(41) - TOR(40))/TST(37)		LENT2150
1095	CC(N+111) = TOR(40) - CC(N+105)*TST(1)		LENT2160
1096	TOR(42) = (CC(N+90) - CC(N+93)*CC(N+123) - CC(N+129))/(CC(N+105)*TST(1))		LENT2170
1097	(3)*TST(11) + TST(12)		LENT2180
1098	TOR(43) = D(51) - D(52)		LENT2190
1099	IF (TOR(42) - TOR(43)) 140,141,141		LENT2200
1100	140 TOR(43) = D(21) + D(52)		LENT2210
1101	IF (TOR(42) - TOR(43)) 141,142,142		LENT2220
1102	141 TOR(42) = TOR(43)		LENT2230
1103	142 CC(N+117) = (D(3)*TOR(42) - D(1))/(D(2) - D(3)*TOR(42))		LENT2240
1104	C		LENT2250
1105	C		LENT2251
1106	C	**BK PRINT TEST FOR LE DEVICE DATA**	LENT2252
1107	143 IF (IP(11)) 1430,1430,143		LENT2255
1108	1430 WRITE (6,144)N,N		LENT2256
1109	C		LENT2257
1110	144 FORMAT (8H1) **LENT SUBR. LE DEVICE SUPPLY DATA ARRAYS--TOR, LENT2258		
1111	1TST, CC1**25X,18H** LENT - (P(11) **18H0 *LE DEVICE,12,		
1112	2 8H TYPE,12,1H**8H0 TR0)		
1113	C		LENT2261
1114	1440 FORMAT (1H 14,5E10.0)		LENT2262
1115	1441 FORMAT (8H0 TST)		LENT2263
1116	1442 FORMAT (8H0 CC1)		LENT2264
1117	1443 FORMAT (8H0 CCL)		LENT2265
1118	C		LENT2266
1119	DO 145 NN=1,100,5		LENT2267
1120	IX = NN + ND(4)		LENT2268
1121	WRITE (6,1440)NN,(TOR(1),1-NN,IX,1)		LENT2269
1122	145 CONTINUE		LENT2270
1123	WRITE (6,1441)		LENT2271
1124	DO 1450 NN=1,50,5		LENT2272
1125	IX = NN + ND(4)		LENT2273
1126	WRITE (6,1440)NN,(TST(1),1-NN,IX,1)		LENT2274
1127	1450 CONTINUE		LENT2275
1128	WRITE (6,1442)		LENT2276
1129	DO 1451 NN=1,300,5		LENT2277
1130	IX = NN + ND(4)		LENT2278
1131	WRITE (6,1440)NN,(CC1(1),1-NN,IX,1)		LENT2279
1132	1451 CONTINUE		LENT2280
1133	C		LENT2281
1134	C	**LOOP FOR NEXT LE DEVICE**	LENT2282
1135	149 CONTINUE		LENT2283

CARD NO	INPUT LISTING	CONTENTS	LENT
1136	C		LENT2204
1137	C	***SETUP DELTA Y AND DELTA X INCREMENTS AND MAX. NO.**	LENT2205
1138	150	CC(1202) = DINT(12)	LENT2206
1139		IF (CC(1202)) 151,151,152	LENT2300
1140	151	CC(1202) = D(10)	LENT2310
1141	152	CC(1203) = DINT(15)	LENT2320
1142		IF (CC(1203)) 153,153,154	LENT2330
1143	153	/.(1203) = D(5)	LENT2340
1144	154	CC(1204) = DINT(10)	LENT2350
1145		IF (CC(1204)) 155,155,156	LENT2360
1146	155	CC(1204) = D(10) + D(5)	LENT2370
1147	156	CC(1205) = DINT(11)	LENT2380
1148		IF (CC(1205)) 157,157,158	LENT2390
1149	157	CC(1205) = D(5)	LENT2400
1150	C		LENT2410
1151	C	***FINAL (Y,X) CO-ORDS*	LENT2420
1152	158	CCM(27) = CCM(31) + CCM(33)	LENT2430
1153		CCM(28) = CCM(32) + CCM(34)	LENT2440
1154		CCM(1) = CCM(3) + CCM(4)	LENT2450
1155		CCM(8) = CCM(1)	LENT2460
1156		IF (CCM(17)) 159,159,159	LENT2470
1157	159	CCM(8) = CCM(1)/CCM(17)	LENT2480
1158	C		LENT2490
1159	160	DO 160 I=1,2	LENT2500
1160		CCM(I+10) = CCM(I+2)	LENT2510
1161		IF (CCM(I+10)) 161,162,161	LENT2520
1162	161	CCM(I+10) = CCM(I+2)/CCM(I+10)	LENT2530
1163	162	IF (CCM(1)) 163,164,163	LENT2540
1164	163	CCM(I+20) = CCM(I+20)/CCM(1)	LENT2550
1165	164	IF (CCM(3)) 165,166,165	LENT2560
1166	165	CCM(I+30) = CCM(I+30)/CCM(3)	LENT2570
1167	166	IF (CCM(4)) 167,168,167	LENT2580
1168	167	CCM(I+32) = CCM(I+32)/CCM(4)	LENT2590
1169		CONTINUE	LENT2595
1170	C		LENT2600
1171	C	***MOVE CCI TO COL REGION*	LENT2610
1172		DO 168 I=1,300	LENT2620
1173		COL(I) = CCI(I)	LENT2630
1174	168	CONTINUE	LENT2640
1175	C		LENT2650
1176	C	***TOTAL LE SUMMARY PRINT TEST***	LENT2660
1177	170	IF (IP(11)) 171,171,199	
1178	171	WRITE (6,174)	LENT2680
1179	C		LENT2690
1180	174	FORMAT (72H) ***LENT SUBR. LE HEIGHT AND DISTRIBUTION SUMMARY ALENT2700	
1181		NRAYS=CCM, COL, ** ,10X,10H** LENT - IP(11) **/END CCM	
1182	C		LENT2720
1183	C		LENT2730
1184		DO 175 NN=1,50,5	LENT2740
1185		IK = NN+ND(4)	LENT2750
1186		WRITE (6,1440)NN,(CCM(I),I=NN,IK,1)	LENT2760
1187	175	CONTINUE	LENT2770
1188		WRITE (6,1443)	LENT2780
1189		DO 176 NN=1,300,5	LENT2790
1190		IK = NN + ND(4)	LENT2800
1191		WRITE (6,1440)NN,(COL(I),I=NN,IK,1)	LENT2810
1192	176	CONTINUE	LENT2820
1193	C		LENT2830
1194	C	***EXIT*	LENT2850
1195	199	RETURN	LENT2860
1196		END	LENT2869
1197	C	*****	
1198	C		
1199	C	*****SUBROUTINE TEXT*****	
1200	C	***TE STRUCTURE EVALUATION AND CONTROL***	
1201	C		
1202	C	*****	
1203	C		
1204		SUBROUTINE TEXT	TEXT0010
1205	C		TEXT0020
1206	C	***TE STRUCTURE GEOMETRY, WT. EST., DIST., CO AND INERTIA*TEXT0030	

05/10/74	INPUT LISTING	AUTOFLW CHART SET - SHEEP	WIND AND EXPENHAGE MODULE -
CARD NO	CONTENTS		
1207	C		TEXT0040
1208	COMMON T		TEXT0040
1209	COMMON /PRINT/ IP(0)		TEXT0051
1210	C		TEXT0060
1211	DIMENSION T(6220),D(2000),CD(2000),ND(100),DC(100),		TEXT0070
1212	YC(150),TT(24),TD(300),TMD(400),YTC(60),		TEXT0071
1213	ZTST(50),TOR(100),CCM(50),CC(300),CCT(300),		TEXT0072
1214	ZOTE(45),DTE0(30),DTE2(20),DINT(112),TTED(40),DPOK(10),		TEXT0073
1215	WOLPK(20),DALK(30),DPS(25),		TEXT0074
1216	OTE(150),		TEXT0075
1217	STAND(0),CCLO(0),SIND(0),COS0(0)		TEXT0076
1218	C		TEXT0080
1219	EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(0121)),		TEXT0090
1220	(YC(1),D(1401)),(YC(1),T(201)),(TT(1),T(411)),(TD(1),T(1001)),		TEXT0091
1221	ZTMD(1),T(1301)),(TST(1),T(1701)),(TOR(1),T(1751)),		TEXT0092
1222	ZCCM(1),CD(1)),(CC(1),CD(1051)),(CCT(1),CD(351)),		TEXT0093
1223	ZOTE(1),D(1235)),(DTE0(1),D(1500)),(DTE2(1),D(1010)),		TEXT0094
1224	SIDINT(1),D(1143)),(TTED(1),TOR(51)),(DPOK(1),D(1750)),		TEXT0095
1225	STAND(1),T(122)),(CCLO(1),T(131)),		TEXT0096
1226	T(SIND(1),T(140)),(COS0(1),T(140)),		TEXT0097
1227	SHAREA,D(240)),(ONL,D(07)),(YTC(1),T(351)),(WOLPK(1),D(1745)),(DALK		TEXT0098
1228	TE(1),D(1705)),(DPS(1),D(1705))		TEXT0099
1229	C		TEXT0100
1230	EQUIVALENCE (I,ND(20)),(N,ND(27)),(L,ND(201)),(K,ND(30)),		TEXT0110
1231	(IM,ND(31)),		TEXT0111
1232	ZITE(1),CD(1251)),		TEXT0113
1233	SIDINT,D(2001)		TEXT0119
1234	C		TEXT0120
1235	C		TEXT0121
1236	100 DO 101 I=1,300		TEXT0125
1237	CC(1) = DC(3)		TEXT0130
1238	101 CONTINUE		TEXT0140
1239	DO 102 I=1,50		TEXT0150
1240	TST(1) = DC(3)		TEXT0160
1241	TOR(1) = DC(3)		TEXT0170
1242	TOR(I+50) = DC(3)		TEXT0180
1243	102 CONTINUE		TEXT0185
1244	C		TEXT0190
1245	C		TEXT0190
1246	C		TEXT0190
1247	103 K = ND(1)		TEXT0195
1248	IF (D(VID) 1031,1032,1030		TEXT0200
1249	1030 K = K + ND(1)		TEXT0205
1250	1031 K = K + ND(1)		TEXT0206
1251	1032 N = K*15 - 15		TEXT0209
1252	DO 1033 I=1,15		TEXT0210
1253	L = N + 1		TEXT0213
1254	TTED(1) = OTE(L)		TEXT0214
1255	1033 CONTINUE		TEXT0215
1256	C		TEXT0220
1257	C		TEXT0230
1258	C		TEXT0235
1259	C		TEXT0236
1260	C		TEXT0237
1261	C		TEXT0238
1262	1030 TT(1) = (TO(12) + TO(201))/D(2)		TEXT0240
1263	TT(2) = DC(3)		TEXT0245
1264	C		
1265	IF (IP(0))5002,5002,5005		
1266	5002 WRITE(0,5003)		
1267	5003 FORMAT(1M,7M,2M** CTOT(CALLED FROM TEND) - IP(0) **)		
1268	C		
1269	5005 CALL CTOT		
1270	CC(1200) = YC(3) - YC(2)		TEXT0251
1271	CC(1200) = 0(1)		TEXT0256
1272	CC(1207) = TTED(1)		TEXT0256
1273	IF (TTED(1)) 104,104,105		TEXT0257
1274	C		TEXT0259
1275	C		TEXT0259
1276	104 IF (K - ND(21)) 1040,1041,1041		TEXT0260
1277	C		TEXT0265

CARD NO	****	CONTENTS	****
1270	C	*WIND, M/S= C(122)*0.5/0)+C3, S=50.FT./SIDE, D=EMP 5 IN. TEMT0270	
1270		1040 CC(1297) = TTED(5)+TTED(6)+OVL*TO(295)/(10(22) - TO(17))+C050(14) TEMT0275	
1280		1050 TTED(7) TEMT0276	
1290	C	TEMT0280	
1292		00 TO 1042 TEMT0295	
1293	C	*HORI. VERT. TEMP USE SAME EQU. FORM AS WIND* TEMT0290	
1294		1041 00 TO 1040 TEMT0295	
1295	C	TEMT0298	
1296	C	*K(1M/5)=K(1)*K3 + AK2), K=K(0), AK2= T/C EFF. K, TEMT0299	
1297	C	K3 = K(0), 0 GREATER THAN REF 0 AT .5H. 0(2)=950. TEMT0300	
1298		1042 CC(1295) = TTED(11) TEMT0310	
1299		IF (TTED(10) - OVL) 1043,1044,1044 TEMT0315	
1299		1043 CC(1295) = TTED(0)+(OVL/TTED(10))*TTED(0) - 0(11) + TTED(11) TEMT0320	
1299		1044 CC(1295) = CC(1295)+TTED(14) + TTED(13)+TTED(15)/YC(31))+TTED(14) TEMT0330	
1299	C	TEMT0330	
1299	C	*M/S LB/50. IN.* TEMT0339	
1299		105 CC(1297) = CC(1297)/D(17)+TTED(2)+CC(1295) TEMT0349	
1299	C	*CHORDWISE CP. TRAP. DIST. REF TO RS. TR=2(TC)/Z(RS)* TEMT0350	
1299		CC(1298) = TTED(3) TEMT0360	
1299		CC(1298) = (D(1) + D(2)+CC(1298))/(D(3) + D(3)+CC(1298)) TEMT0370	
1299	C	TEMT0380	
1299	C	*BASIC DIST. DATA. Z=TOTAL CHORD M/S.** TEMT0390	
1300		105 DO 100 I=1,11 TEMT0400	
1301		TOR(1) = CC(1297)+TO(1+232) TEMT0410	
1302		CC(11+4) = TO(1+210) TEMT0420	
1303		CC(11+52) = TO(1+221) TEMT0430	
1304		IF (D(1) - 1) 107,108,108 TEMT0440	
1305	107	TT(3) = TO(1+11) - TO(1+10) TEMT0450	
1306		CC(1) = TT(3)+TOR(1) + TOR(1-1)/D(2) TEMT0460	
1307		CC(1) = CC(1) + CC(1) TEMT0470	
1308	C	*PANEL DIST. DATA. TAN(Z), C(Z), CPX* TEMT0480	
1309		CC(11+10) = (TOR(1) - TOR(1-1))/TT(3) TEMT0490	
1310		CC(11+20) = TOR(1-1) - TO(1+10)+CC(11+10) TEMT0500	
1311		CC(11+30) = CC(1298) TEMT0510	
1312	C	*W, PK FOR C.S.* TEMT0520	
1313		TT(4) = TOR(1)/TOR(1-1) TEMT0530	
1314		TT(5) = TO(1+10) + TT(3)+D(1) + D(2)+TT(4)/(D(3) + D(3)+TT(4)) TEMT0540	
1315		CCM(35) = CCM(35) + TT(5)+CC(1) TEMT0550	
1316		TT(1) = TT(5) TEMT0560	
1317		CALL CTOT1 TEMT0570	
1318		TT(6) = YC(5) + CC(1298)+(YC(7) - YC(5)) TEMT0580	
1319		CCM(36) = CCM(36) + TT(6)+CC(1) TEMT0590	
1320	109	CONTINUE TEMT0600	
1321	C	*MOVE TE DATA* TEMT0610	
1322		CCM(10) = TO(244) TEMT0620	
1323		CCM(21) = TO(244) TEMT0630	
1324		CCM(26) = TO(295) TEMT0640	
1325		CCM(5) = CC(1) TEMT0650	
1326	C	TEMT0660	
1327	C	*INTEGRATE TE MTS.** TEMT0670	
1328		CALL TEMT1 TEMT0680	
1329	C	TEMT0690	
1330	C	TEMT0700	
1331	C	*DELTA Y AND X INCREMENTS AND MAX NO** TEMT0710	
1332	210	CC(1292) = DINT(13) TEMT0720	
1333		IF (CC(1292)) 211,211,212 TEMT0730	
1334	211	CC(1292) = 0(10) TEMT0740	
1335	212	CC(1293) = DINT(16) TEMT0750	
1336		IF (CC(1293)) 213,213,214 TEMT0760	
1337	213	CC(1293) = 0(5) TEMT0770	
1338	214	CC(1294) = DINT(19) TEMT0780	
1339		IF (CC(1294)) 215,215,216 TEMT0790	
1340	215	CC(1294) = 0(10) + 0(5) TEMT0800	
1341	216	CC(1295) = DINT(12) TEMT0810	
1342		IF (CC(1295)) 217,217,218 TEMT0820	
1343	217	CC(1295) = 0(5) TEMT0830	
1344	C	TEMT0840	
1345	C	*FINAL (Y,X) CO (AERO), FINAL M/S** TEMT0850	
1346	218	CCM(20) = CCM(35) + CCM(37) + CCM(39) + CCM(41) TEMT0860	
1347		CCM(30) = CCM(36) + CCM(38) + CCM(40) + CCM(42) TEMT0870	
1348		CCM(21) = CCM(5) + CCM(6) + CCM(7) + CCM(8) TEMT0880	

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1349	CCM(10) = CCM(2)		TEMT5040
1350	IF (CCM(10)) 219,220,219		TEMT5050
1351	219 CCM(10) = CCM(2)/CCM(10)		TEMT5060
1352	220 DO 222 I=1,4		TEMT5070
1353	CCM(I+12) = CCM(I+4)		TEMT5080
1354	IF (CCM(I+20)) 221,222,221		TEMT5090
1355	221 CCM(I+12) = CCM(I+4)/CCM(I+20)		TEMT5100
1356	222 CONTINUE		TEMT5110
1357	C		TEMT5120
1358	IF (CCM(2)) 223,224,223		TEMT5130
1359	223 CCM(20) = CCM(20)/CCM(2)		TEMT5140
1360	CCM(30) = CCM(30)/CCM(2)		TEMT5150
1361	224 DO 226 I=1,4		TEMT5160
1362	IF (CCM(I+4)) 225,226,225		TEMT5170
1363	225 K = I+ND(2)		TEMT5180
1364	CCM(K+23) = CCM(K+33)/CCM(I+4)		TEMT5190
1365	CCM(K+34) = CCM(K+34)/CCM(I+4)		TEMT5200
1366	226 CONTINUE		TEMT5210
1367	C		TEMT5220
1368	C *****MOVE CCI TO CCT REGION*****		TEMT5230
1369	DO 227 I=1,300		TEMT5240
1370	CCT(I) = CCI(I)		TEMT5250
1371	227 CONTINUE		TEMT5260
1372	C		TEMT5270
1373	C		TEMT5280
1374	C ***TEST FOR BK PRINT***		TEMT5290
1375	C *PRINT CCM, CCT, TE ARRAYS*		TEMT5300
1376	230 IF (IP(1)) 231,231,230		
1377	231 WRITE (6,233)		TEMT5340
1378	C		TEMT5350
1379	233 FORMAT (7H1) ***TEST SUBR. TE HEIGHT AND DISTRIBUTION SUMMARY ATENT5000		
1380	1ARRAYS--CCM, CCT, TE***,14X,15H** TEST - IP(1) **END CCM I		
1381	C		TEMT5360
1382	234 FORMAT (1H 14,5E10.0)		TEMT5370
1383	C		TEMT5380
1384	DO 235 N=1,50.5		TEMT5390
1385	K = N + ND(4)		TEMT5400
1386	WRITE (6,234)N,(CCM(I),I=N,K,1)		TEMT5410
1387	235 CONTINUE		TEMT5420
1388	C		TEMT5430
1389	WRITE (6,236)		TEMT5440
1390	236 FORMAT (6H CCT)		TEMT5450
1391	DO 237 N=1, 300.5		TEMT5460
1392	K = N + ND(4)		TEMT5470
1393	WRITE (6,234)N,(CCT(I),I=N,K,1)		TEMT5480
1394	237 CONTINUE		TEMT5490
1395	C		TEMT5500
1396	WRITE (6,238)		TEMT5510
1397	238 FORMAT (6H TE)		TEMT5520
1398	DO 239 N=1,150.5		TEMT5530
1399	K = N + ND(4)		TEMT5540
1400	WRITE (6,234)N,(TE(I),I=N,K,1)		TEMT5550
1401	239 CONTINUE		TEMT5560
1402	C		TEMT5570
1403	200 RETURN		TEMT5580
1404	END		TEMT5590
1405	*****		
1406	C		
1407	C *****SUBROUTINE TEDEV*****		
1408	C ***TE DEVICE HEIGHT AND DISTRIBUTION EVALUATION***		
1409	C		
1410	*****		
1411	C		
1412	SUBROUTINE TEDEV		TEMT6010
1413	C		TEMT6020
1414	C ***TE STRUCTURE GEOMETRY, HT. EST., DIST., CG AND INERTIA***		TEMT6030
1415	C		TEMT6040
1416	COMMON T		TEMT6050
1417	COMMON /IPRINT/IP(80)		
1418	C		TEMT6060
1419	DIMENSION T(6220),D(2000),CD(2000),ND(100),OC(100),		TEMT6070

2250

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1491		IF (D(4)) - TTED(1) 1200,1200,124	TEMT1147
1492		1200 IFD = MD(2)	TEMT1148
1493		M = 1	TEMT1150
1494		TTED(27) = DAILK(7)	TEMT1160
1495		121 TTED(21) = DAILK(1)	TEMT1170
1496		DO 123 I=1,11	TEMT1180
1497		TTED(1+29) = DAILK(1+7)	TEMT1190
1498		IF (1 - MD(5)) 122,122,123	TEMT1200
1499		122 L = M + 1	TEMT1210
1500		TTED(1+21) = DAILK(L)	TEMT1220
1501		123 CONTINUE	TEMT1230
1502	C		TEMT1240
1503	C	*TEST FOR CALC ON NO OF SEGMENTS. 0=NO. FOR ALL DEVICES	TEMT1250
1504		124 IF (TTED(2)) 209,209,125	TEMT1260
1505		125 DO 160 I=1,2	TEMT1270
1506		TST(1) = TTED(1+2)	TEMT1280
1507		IF (TTED(1+2) - D(1)) 126,126,127	TEMT1290
1508		126 TST(1) = MD(2)*TST(1)	TEMT1300
1509		127 TT(1) = TST(1)	TEMT1310
1510		TT(2) = DC(3)	TEMT1320
1511	C		
1512		IF (1 - 1)5001,5001,5005	
1513		5001 IF (IP(8))5002,5002,5005	
1514		5002 WRITE(6,5003)	
1515		5003 FORMAT(1H1,70X,3BH** CTOFI (CALLED FROM TEDEV) - IP(8) **)	
1516	C		
1517		5005 CALL CTOFI	
1518		TST(1+6) = YC(5)	TEMT1340
1519		TST(1+8) = YC(7)	TEMT1350
1520		TST(1+10) = YC(7)	TEMT1360
1521		TST(1+4) = YC(7)	TEMT1370
1522		TST(1+24) = YC(7) - YC(5)	TEMT1380
1523	C		TEMT1388
1524	C	*CALC BASIC TE DIST. DATA. Z(RS) AND TAN(Z) FOR RS	TEMT1389
1525		TST(1+46) = D(2)*CC(1297)/(D(1) + CC(1299))	TEMT1390
1526		TST(1+48) = (CC(1299) - D(1))/TST(1+24)*TST(1+46)	TEMT1395
1527	C		TEMT1399
1528	C	*CALC X COORD. DATA FOR DEVICES AT Y(1).	TEMT1400
1529		TST(1+2) = TTED(1+4)	TEMT1410
1530		IF (TTED(1+4) - D(2)) 129,129,129	TEMT1420
1531	129	TST(1+2) = TTED(1+4)*YC(8)	TEMT1430
1532	129	TST(1+2) = YC(2) + TST(1+2)	TEMT1440
1533		TST(1+26) = TST(1+2) - TST(1+6)	TEMT1445
1534		TT(20) = TST(1+46)*TST(1+26) + TST(1+48)	TEMT1446
1535		TST(1+26) = TST(1+6) - TST(1+2)	TEMT1447
1536	C		TEMT1448
1537	C	*K AFT FOR SP., POINT 2 FOR D/S, T/S FLAPS.	TEMT1450
1538	C	*INPUT NOT REQD FOR AIL, ELEV, RUD, FLAP ID 0,1	TEMT1460
1539	C	**IFK = 1 SP, 2 FOR D/S, 3 FOR T/S, 4 FOR OTHERS**	TEMT1470
1540		IFK = MD(1)	TEMT1480
1541		IF (MD(3) - M) 130,130,134	TEMT1490
1542	130	IFK = MD(4)	TEMT1500
1543	C		TEMT1503
1544	C	*AIL, ELEV, RUDDER*	TEMT1504
1545		TST(1+44) = TST(1+2) + TST(1+26)*DFSP(1FD+10)	TEMT1505
1546		IF (1FD - MD(1)) 131,131,148	TEMT1510
1547	C		TEMT1518
1548	C	*FLAPS, START WITH SIMPLE FLAP*	TEMT1519
1549	131	TST(1+44) = TST(1+2) + TST(1+26)*DFSP(8)	TEMT1520
1550	C		TEMT1523
1551	C	*TEST FOR PLAIN, SLOTTED*	TEMT1524
1552		IF (TTED(1)) 148,148,1318	TEMT1525
1553		1318 TST(1+44) = TST(1+2) + TST(1+26)*DFSP(8)	TEMT1526
1554	C		TEMT1527
1555	C	*TEST FOR S/S, D/S, T/S*	TEMT1527
1556		IF (D(2) - TTED(1)) 132,133,148	TEMT1530
1557	C		TEMT1529
1558	C	*T/S FLAPS, ID=3*	TEMT1529
1559	132	IFK = MD(3)	TEMT1530
1560		GO TO 134	TEMT1540
1561	C		TEMT1548

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
1562	C	*D/S FLAPS, 10-2*	TEMT1940
1563	133 IFK = MD(2)		TEMT1950
1564	C		TEMT1950
1565	C	*SP, D/S, T/S, DO XIA)*	TEMT1960
1566	134 TST(1+4) = TTED(1+6)		TEMT1965
1567	IF (TTED(1+6) - D(2)) 135,136,137		TEMT1966
1568	135 TST(1+4) = TTED(1+6)+YC(8)		TEMT1970
1569	136 TST(1+4) = YC(2) + TST(1+4)		TEMT1980
1570	C		TEMT1980
1571	C	*SPOILER, CHECK -TE DELTA MT*	TEMT1990
1572	IF (N - MD(2)) 137,137,138		TEMT1999
1573	137 TST(1+16) = TST(1+4)		TEMT1910
1574	TST(1+26) = TST(1+4) - TST(1+2)		TEMT1920
1575	TST(1+22) = TST(1+4) - TST(1+2)		TEMT1925
1576	IF (TTED(13)) 138,138,138		TEMT1930
1577	138 TST(1+26) = TTED(37)+TT(20)/D(2)+TST(1+26)		TEMT1940
1578	TST(1+30) = TST(1+2) + TST(1+26)/D(3)		TEMT1950
1579	C		TEMT1950
1580	C	*TE CP AT .5 XRS+XIF)*	TEMT1960
1581	TST(1+40) = TTED(38)+TST(1+20)/D(2)+TT(20) + TST(1+40)		TEMT1970
1582	TST(1+42) = (TST(1+8) + TST(1+20)/D(2))+TST(1+40)		TEMT1980
1583	TST(1+44) = TST(1+2)		TEMT1980
1584	GO TO 180		TEMT1700
1585	C		TEMT1710
1586	C	*D/S AND T/S CHORD DATA, POINT NO 3, LE OF AFT OR MID.*	TEMT1720
1587	139 TST(1+10) = TTED(1+8)		TEMT1730
1588	IF (TTED(1+8) - D(2)) 140,140,141		TEMT1740
1589	140 TST(1+10) = TTED(1+8)+YC(8)		TEMT1750
1590	141 TST(1+10) = YC(2) + TST(1+10)		TEMT1760
1591	TST(1+44) = TST(1+10) + D/S(10)*(TST(1+10) - TST(1+10))		TEMT1765
1592	IF (MD(2) - IFK) 142,147,147		TEMT1770
1593	C		TEMT1770
1594	C	*POINTS 4 AND 5 FOR T/S*	TEMT1780
1595	142 TST(1+12) = TTED(1+10)		TEMT1790
1596	IF (TTED(1+10) - D(2)) 143,143,144		TEMT1800
1597	143 TST(1+12) = TTED(1+10)+YC(8)		TEMT1810
1598	144 TST(1+12) = YC(2) + TST(1+12)		TEMT1820
1599	TST(1+14) = TTED(1+12)		TEMT1830
1600	IF (TTED(1+12) - D(2)) 145,145,146		TEMT1840
1601	145 TST(1+14) = TTED(1+12)+YC(8)		TEMT1850
1602	146 TST(1+14) = YC(2) + TST(1+14)		TEMT1860
1603	TST(1+44) = TST(1+14) + D/S(11)*(TST(1+14) - TST(1+14))		TEMT1865
1604	C		TEMT1870
1605	C	*DEVELOPED CHORD, FIXED TE UPR AND LMR, ALL N=3-8*	TEMT1880
1606	147 TST(1+26) = TST(1+10) - TST(1+14) + TST(1+12) - TST(1+10) + TST(1+10)		TEMT1890
1607	148 TST(1+2) = TST(1+2)		TEMT1900
1608	C		TEMT1900
1609	C	*INCL. SIMPLE, S/S FLAPS, AIL., ELEV., RUDDER*	TEMT1909
1610	149 TST(1+22) = TST(1+8) - TST(1+2)		TEMT1910
1611	C		TEMT1920
1612	C	*FOR AFT CUT-OFF OF FIXED TE, SET TO XIF) IF ZERO.*	TEMT1930
1613	TST(1+10) = TST(1+2)		TEMT1940
1614	TST(1+20) = TST(1+2)		TEMT1950
1615	IF (TTED(1+14)) 152,152,148		TEMT1960
1616	148 TST(1+10) = TTED(1+14)		TEMT1970
1617	IF (TTED(1+14) - D(2)) 150,150,151		TEMT1980
1618	150 TST(1+10) = TTED(1+14)+YC(8)		TEMT1980
1619	151 TST(1+10) = YC(2) + TST(1+10)		TEMT2000
1620	152 IF (TTED(1+10)) 156,156,153		TEMT2010
1621	153 TST(1+20) = TTED(1+10)		TEMT2020
1622	IF (TTED(1+10) - D(2)) 154,154,155		TEMT2030
1623	154 TST(1+20) = TTED(1+10)+YC(8)		TEMT2040
1624	155 TST(1+20) = YC(2) + TST(1+20)		TEMT2050
1625	C		TEMT2050
1626	C	*DELTA SITE) CHORDS, 1-1 TE=PHL, 1-1 TE=AVE UPR,LMR*	TEMT2060
1627	156 TST(1+32) = TST(1+22)		TEMT2070
1628	TST(1+34) = (TST(1+10) + TST(1+20))/D(2) - TST(1+2)		TEMT2080
1629	C		TEMT2090
1630	C	(-,-) TE DATA FOR N=3-8*	TEMT2090
1631	TT(21) = TST(1+46)+CC(1200)		TEMT2100
1632	TST(1+36) = TST(1+22)+TT(20) + TT(21)/D(2)		TEMT2110

CARD NO	****	CONTENTS	****
1633		TT(22) = TT(21)/TT(20)	TEMP2120
1634		TST(1+20) = TST(1+2) + TST(1+22)*D(1) + D(2)*TT(22)/(D(1) + D(3)*TEMP2130	
1635		1+TT(22))	TEMP2140
1636	C		TEMP2140
1637	C	**1 TE UPR, LMR IN LOOP*	TEMP2150
1638		TT(23) = TST(1+10)	TEMP2160
1639		TT(24) = TST(1+20)	TEMP2170
1640		DO 100 K=1,2	TEMP2180
1641		TT(10) = TTED(K+36)*TST(1+6)	TEMP2190
1642		TT(10) = TTED(K+36)*TT(20)	TEMP2200
1643		TT(15) = (TT(10)+TT(10))*TST(1+20)/D(2)	TEMP2210
1644		TT(16) = DC(1)	TEMP2220
1645		TT(14) = DC(1)	TEMP2230
1646		TT(17) = TT(K+22) - TST(1+2)	TEMP2240
1647		IF (TT(17)) 150,150,157	TEMP2250
1648	157	TT(16) = TT(17)+TT(10)/D(2)	TEMP2260
1649		TT(14) = TT(16)+TT(17)/D(3) + TST(1+2))	TEMP2270
1650	150	TST(1+40) = TT(16) + TT(15) + TST(1+40)	TEMP2280
1651		TT(22) = TT(10)/TT(10)	TEMP2290
1652		TST(1+42) = TT(14) + TT(15)+TST(1+6) + TST(1+20)*D(1) + D(2)*TT(TEMP2300	
1653		122)/(D(3) + D(3)*TT(27)) + TST(1+2)	TEMP2310
1654	150	CONTINUE	TEMP2320
1655	C		TEMP2320
1656	C	**LOOP FOR ORD Y.**	TEMP2330
1657	150	CONTINUE	TEMP2340
1658	C		TEMP2350
1659	C		TEMP2360
1660	200	RETURN	TEMP2370
1661		END	TEMP2380
1662		C*****	
1663	C		
1664	C	****SUBROUTINE TEMP1****	
1665	C	***TRAILING EDGE DEVICE HEIGHT ESTIMATION***	
1666	C		
1667		C*****	
1668	C		
1669		SUBROUTINE TEMP1	TEMP0010
1670	C		TEMP0020
1671	C	**TE STRUCTURE GEOMETRY, WT. EST., DIST., CG AND INERTIA**	TEMP0030
1672	C		TEMP0040
1673		COMMON T	TEMP0050
1674		COMMON /PRINT/ IP(80)	TEMP0051
1675	C		TEMP0060
1676		DIMENSION T(6220),D(2060),CD(2000),MD(100),DC(100),	TEMP0070
1677		1YC(150),TT(24),TG(300),THG(400),VTC(60),	TEMP0071
1678		2TST(150),TOR(100),CCM(50),CC(300),CCT(300),	TEMP0072
1679		3DTE(45),DTED(130),DTEO2(120),DINT(112),TTED(40),DSPOK(115),	TEMP0073
1680		4DFLAK(20),DALIK(130),DFSP(25),	TEMP0074
1681		5TE(150),	TEMP0075
1682		6TAND(0),CCLO(0),SIND(0),COSO(0)	TEMP0076
1683	C		TEMP0080
1684		EQUIVALENCE (D(1),T(206(1)),CD(1),T(412(1)),MD(1),T(612(1)),	TEMP0090
1685		1(CD(1),D(140(1)),1YC(1),T(20(1)),TT(1),T(41(1)),TG(1),T(100(1)),	TEMP0091
1686		2(THG(1),T(130(1)),TST(1),T(170(1)),TOR(1),T(175(1)),	TEMP0092
1687		3(CCM(1),CD(1),CC(1),CD(105(1)),CCT(1),CD(35(1)),	TEMP0093
1688		4(DTE(1),D(1235(1)),DTED(1),D(1500(1)),DTEO2(1),D(1610(1)),	TEMP0094
1689		5(DINT(1),D(1143(1)),TTED(1),TOR(5(1)),DSPOK(1),D(1730(1)),	TEMP0095
1690		6(DO2,T(12(1)),DS102,T(15(1)),TAND(1),T(122(1)),CCLO(1),T(113(1)),	TEMP0096
1691		7(SIND(1),T(140(1)),COSO(1),T(140(1)),	TEMP0097
1692		8(MARE,A,D(240(1)),DM,D(87(1)),VTC(1),T(35(1)),DFLAK(1),D(1745(1)),DALIK(TEMP0098	
1693		9LK(1),D(1705(1)),DFSP(1),D(1705(1))	TEMP0099
1694	C		TEMP0100
1695		EQUIVALENCE (1,MD(26(1)),IN,MD(27(1)),IL,MD(28(1)),IK,MD(30(1)),	TEMP0110
1696		1(M,MD(31(1)),1FD,MD(32(1)),1FK,MD(33(1)),	TEMP0111
1697		2(TE(1),CD(125(1)),MAY10,T(157(1)),	TEMP0112
1698		9(DMAY10,D(200(1))	TEMP0113
1699	C		TEMP0120
1700	C		TEMP0130
1701	C	**CLEAR TE ARRAY**	TEMP0140
1702		DO 100 I=1,150	TEMP0150
1703		TE(I) = DC(1)	TEMP0160

CARD NO	CONTENTS	****
1704	100 CONTINUE	TEMP0050
1705	C	TEMP0060
1706	C **FE DEVICE DATA. WING, HORI, VERT**	TEMP0070
1707	C *6 SETS OF WING DEVICES. 2 SPOILERS, 3 FLAPS, 1 ALLERON*	TEMP0080
1708	C CAN USE NO 6 FOR FLAP IN LIEU OF ALLERON.	TEMP0091
1709	C *FOR HORI, NO 6-ELEVATOR*	TEMP0092
1710	C *FOR VERT, NO 6-RUDDERS*	TEMP0093
1711	C *SPOILERS 1,2. FLAPS 3,4,5 AND TEST 6 FOR FLAP OR AIL.*	TEMP0090
1712	110 DO 209 N=1,6	TEMP0700
1713	DO 111 I=1,90	TEMP0710
1714	TST(1) = DC(3)	TEMP0720
1715	TOR(1) = DC(3)	TEMP0730
1716	111 CONTINUE	TEMP0740
1717	C	TEMP0750
1718	C ***SETUP DEVICE(N) DATA***	TEMP0760
1719	CALL TEDEV	TEMP0770
1720	C	TEMP0780
1721	C **TEST IF NO CALC. FOR DEVICE(N)**	TEMP0790
1722	C	TEMP0810
1723	IF (TEST(2)) 209,209,101	TEMP0800
1724	C	TEMP2350
1725	C ***PANEL GEOMETRY CALCULATED. COMPUTE DEVICE MT DATA***	TEMP2360
1726	C **CALC AND MOVE DELTA TE (+,-) S,MT,CO.**	TEMP2370
1727	101 TOR(8) = TST(2) - TST(1)	TEMP2380
1728	TOR(9) = TOR(8)/D(2)	TEMP2390
1729	TOR(10) = TOR(9)/D(17)	TEMP2400
1730	CC(1N+8) = TST(1)	TEMP2410
1731	CC(1N+9) = TST(2)	TEMP2420
1732	TOR(8) = TOR(9)*(TST(17)+TST(30))	TEMP2430
1733	IF (TOR(8)) 102,105,102	TEMP2440
1734	102 CC(1N+14) = TOR(8)	TEMP2450
1735	TOR(11) = DC(3)	TEMP2455
1736	IF (ND(3) - N) 1020,1020,1021	TEMP2456
1737	1020 TOR(11) = TOR(10)*(TST(33) + TST(34))	TEMP2460
1738	1021 CC(1N+150) = TOR(10)*(TST(23) + TST(24))	TEMP2470
1739	CCM(21) = CCM(21) - TOR(11)	TEMP2480
1740	CCM(5) = CCM(5) - TOR(8)	TEMP2490
1741	CC(1N+153) = TOR(8)	TEMP2500
1742	IF (CC(1N+150)) 103,104,103	TEMP2510
1743	103 CC(1N+153) = TOR(8)/CC(1N+150)	TEMP2520
1744	104 CC(1N+177) = (TST(30) - TST(37))/TOR(8)	TEMP2530
1745	CC(1N+183) = TST(37) - TST(1)*CC(1N+177)	TEMP2540
1746	CC(1N+195) = (TST(4) - TST(3))/TOR(8)	TEMP2550
1747	CC(1N+201) = TST(3) - TST(1)*CC(1N+195)	TEMP2560
1748	CC(1N+207) = (TST(10) - TST(17))/TOR(8)	TEMP2570
1749	CC(1N+213) = TST(17) - TST(1)*CC(1N+207)	TEMP2580
1750	CC(1N+180) = DC(3)	TEMP2590
1751	C	TEMP2600
1752	TT(22) = TST(30)/TST(37)	TEMP2610
1753	CC(1N+105) = TST(1) + TOR(8)*(D(1)+D(2)+TT(22))/(D(3)+D(3)+TT(22))	TEMP2620
1754	TOR(12) = CC(1N+105) - TST(1)	TEMP2630
1755	TOR(14) = TST(40) - TST(30)	TEMP2640
1756	CC(1N+171) = TST(30) + TOR(12)/TST(8)+TOR(14)	TEMP2650
1757	C	TEMP2660
1758	C	TEMP2670
1759	CCM(35) = CCM(35) - CC(1N+105)*TOR(8)	TEMP2680
1760	CCM(38) = CCM(38) - CC(1N+171)*TOR(8)	TEMP2690
1761	C	TEMP2700
1762	C **(+) DELTA BASIC TE*	TEMP2710
1763	105 TOR(17) = TOR(8)*(TST(41) + TST(42))	TEMP2720
1764	IF (TOR(17)) 1050,106,1050	TEMP2725
1765	1050 CCM(5) = CCM(5) + TOR(17)	TEMP2730
1766	CCM(21) = CCM(21) + TOR(8)*(TST(35) + TST(36))	TEMP2740
1767	CC(1N+231) = TOR(8)*(TST(45) - TST(7) + TST(46) - TST(8))	TEMP2750
1768	CC(1N+267) = TAND(4)	TEMP2760
1769	CC(1N+273) = CCLD(4)	TEMP2770
1770	CC(1N+278) = (TST(46) - TST(45))/TOR(8)	TEMP2780
1771	CC(1N+285) = TST(45) - TST(1)*CC(1N+278)	TEMP2790
1772	TT(22) = TST(42)/TST(41)	TEMP2800
1773	TOR(12) = TST(1) + TOR(8)*(D(1)+D(2)+TT(22))/(D(3) + D(3)+TT(22))	TEMP2810
1774	TOR(14) = TST(43)/TST(41)	TEMP2820

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MINING AND EXPENSE MODULE -
CARD NO	****	COMMENTS	****
1775	TOR(13) = TOR(14) + (TOR(12) - TST(11)/TOR(10))*(TST(14)/TST(12)) - TTEM(2030)		TEMP2030
1776	TOR(14) = TOR(13)		TEMP2040
1777	TOR(12) = TOR(7)*TOR(12)		TEMP2050
1778	TOR(13) = TOR(7)*TOR(13)		TEMP2060
1779	CCM(35) = CCM(35) + TOR(12)		TEMP2070
1780	CCM(36) = CCM(36) + TOR(13)		TEMP2080
1781	C		TEMP2090
1782	C	*DEVICE GEOMETRY DATA*	TEMP2100
1783	100 CCI(1475) = TOR(10)*(TST(23) + TST(24))		TEMP2110
1784	CCI(1423) = (TST(14) - TST(3))/TOR(10)		TEMP2120
1785	CCI(1429) = TST(3) - TST(1)*CCI(1423)		TEMP2130
1786	CCI(1435) = (TST(10) - TST(17))/TOR(10)		TEMP2140
1787	CCI(1441) = TST(17) - TST(1)*CCI(1435)		TEMP2150
1788	C		TEMP2160
1789	C	*CALC DEVICE HEIGHT*	TEMP2170
1790	C	*MAX NO SEGMENTS = 3*	TEMP2180
1791	C	*PRE-CALC EQUATION CONSTANTS AND GENL DATA*	TEMP2190
1792	C	*CALC K(10) = K1+K3+K4, C1=C2*OML*	TEMP2200
1793	107 TOR(10) = TTED(34)*(TTED(36)*TTED(35) - D(1))		TEMP23010
1794	TOR(15) = TTED(22) + TOR(10) + TTED(33)		TEMP23020
1795	TOR(17) = TTED(24)*OML		TEMP23030
1796	TOR(20) = TST(1)		TEMP23040
1797	TT(13) = TST(4) - TST(3)		TEMP23050
1798	TOR(10) = SORT(TT(13)*TT(13) + TOR(10)*TOR(10))		TEMP23060
1799	TOR(31) = TST(27)		TEMP23070
1800	C		TEMP23070
1801	C	K=NO SEGMENTS	TEMP23080
1802	TOR(30) = D(1)		TEMP23090
1803	IF (TTED(2)) 100,100,100		TEMP23100
1804	100 TOR(30) = TTED(2)		TEMP23110
1805	100 K = TOR(30)		TEMP23120
1806	TOR(10) = TOR(10)/TOR(30)		TEMP23130
1807	TOR(37) = TOR(10)/TOR(30)		TEMP23140
1808	TOR(20) = (TST(20) - TST(27))/TOR(10)		TEMP23150
1809	TOR(21) = TST(27) - TST(1)*TOR(20)		TEMP23160
1810	TOR(23) = TOR(10)*(TST(23) + TST(24))		TEMP23165
1811	TOR(24) = TOR(10)*(TST(27) + TST(20))		TEMP23168
1812	C		TEMP23170
1813	C	*LOOP ON K PALS	TEMP23180
1814	170 DO 101 1=1,K,1		TEMP23190
1815	TOR(20) = TOR(20)		TEMP23200
1816	TOR(30) = TOR(31)		TEMP23210
1817	TOR(20) = TOR(20) + TOR(37)		TEMP23220
1818	TOR(31) = TOR(20)*TOR(20) + TOR(21)		TEMP23230
1819	TOR(22) = (TOR(30) + TOR(31)*TOR(37)/D(17)*D(10))		TEMP23240
1820	TOR(30) = TOR(31)/TOR(30)		TEMP23250
1821	TOR(30) = TOR(20) + TOR(37)*(D(1)+D(2)*TOR(30))/(D(3)+D(3)*TOR(30))		TEMP23260
1822	1)		TEMP23270
1823	C		TEMP23280
1824	C	*TEST FOR INPUT M/S AND TYPE	TEMP23290
1825	TOR(27) = TTED(10)		TEMP23295
1826	IF (TTED(10)) 100,171,100		TEMP23300
1827	C		TEMP23300
1828	C	*T/C AT PHL CO*	TEMP23310
1829	171 TT(1) = TOR(30)		TEMP23320
1830	C		
1831	IF(1 - 1)5001,5001,5005		
1832	5001 IF(1P(1))5002,5002,5005		
1833	5002 WRITE(6,5003)		
1834	5003 FORMAT(1H1,70X,3BH** CTOT1 (CALLED FROM TEMP1) - 1P(1) **)		
1835	C		
1836	5006 CALL CTOT1		
1837	C		TEMP23340
1838	C	K(T/C)	TEMP23350
1839	TOR(41) = TTED(30)*(TTED(32)/VC(31))*TTED(31)		TEMP23360
1840	TOR(40) = TOR(41) + TOR(15)		TEMP23370
1841	IF (M - MD(2)) 170,170,170		TEMP23380
1842	C	*SPOILERS*	TEMP23390
1843	C	*M/S = K(1)*(C2+O*SPML/OML) + C3*	TEMP23400
1844	170 TOR(27) = TOR(40)*(TOR(17)+TOR(22)/TOR(10)+TTED(23) + TTED(25))		TEMP23410
1845	GO TO 100		TEMP23420

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1046	C		TEMT3430
1047	C		TEMT3440
1048	C	*FLAPS,AIL,ELEV,RUD.*	TEMT3450
1049	174	IF (1FD - MD(2)) 175,176,177	TEMT3460
1050	C		TEMT3469
1051	C	*FLAPS*	TEMT3470
1052	C	*DEVELOPED AREA PER A.V.*	TEMT3471
1053	175	H = (TTED(1) + D(1))	TEMT3480
1054		TOR(27) = (TOR(40) - TTED(22) + TTED(14) * 2) / (TTED(22) + TTED(23) / D(10) + D(10) * 2) * D(10) * 2	TEMT3490
1055		IL/D(10) * TOR(22) / (YC(3) * TOR(22) / TOR(10) + D(14) / TOR(10) + TTED(24))	TEMT3500
1056		CCM(14) = TTED(1)	TEMT3501
1057		GO TO 180	TEMT3510
1058	C		TEMT3519
1059	C	AILERON	TEMT3520
1060	176	TOR(27) = TOR(17) * TOR(22) / TOR(10)	TEMT3530
1061		TOR(27) = TOR(40) * (TOR(27) * TTED(23) + TTED(25) + TTED(26) * TOR(17) * TEMT3540	
1062		1 * TTED(27))	TEMT3550
1063		CCM(40) = D(4)	TEMT3551
1064		GO TO 180	TEMT3560
1065	C		TEMT3569
1066	C	*ELEV,RUD*	TEMT3570
1067	177	TOR(27) = TOR(17) * TOR(22) / TOR(10)	TEMT3580
1068		IF (1FD - MD(4)) 178,179,179	TEMT3590
1069	178	TOR(27) = TOR(40) * TTED(23) * TOR(27) + TTED(25)	TEMT3600
1070		CCM(40) = D(5)	TEMT3601
1071		GO TO 180	TEMT3610
1072	C		TEMT3619
1073	C	*RUDDER*	TEMT3620
1074	179	TOR(27) = TOR(40) * (TTED(23) * TOR(27) + TTED(25))	TEMT3630
1075		CCM(40) = D(6)	TEMT3631
1076	C		TEMT3639
1077	C		TEMT3639
1078	C	*FINAL M/S*	TEMT3640
1079	180	TOR(27) = TOR(27) + TTED(20)	TEMT3650
1080		TOR(26) = TOR(27) * TOR(22)	TEMT3660
1081		TOR(1) = TOR(1) + TOR(26)	TEMT3670
1082		TOR(32) = TOR(32) + TOR(26) * TOR(30)	TEMT3680
1083		TOR(35) = TOR(30) * CCI(N+123) + CCI(N+129)	TEMT3690
1084		TOR(36) = TOR(30) * CCI(N+135) + CCI(N+141)	TEMT3700
1085		TOR(42) = TOR(35) + (TOR(36) - TOR(35)) * (D(1) + D(2) * TTED(21)) / D(1)	TEMT3710
1086		13) + D(3) * TTED(21))	TEMT3720
1087		TOR(33) = TOR(33) + TOR(26) * TOR(42)	TEMT3730
1088	181	CONTINUE	TEMT3740
1089	C		TEMT3750
1090	C	*FINAL SERVICE DATA*	TEMT3760
1091	182	IF (MD(2) - N) 183,187,187	TEMT3770
1092	C		TEMT3779
1093	C	*FLAPS,AIL,ELEV,RUD.*	TEMT3780
1094	183	H = (TTED(1) + D(1))	TEMT3790
1095		TOR(5) = TOR(1) * D(1) * H	TEMT3800
1096		TOR(43) = TOR(1) - TOR(5)	TEMT3810
1097		TOR(32) = TOR(43) / TOR(1) * TOR(32)	TEMT3820
1098		TOR(33) = TOR(43) / TOR(1) * TOR(33)	TEMT3830
1099		TOR(44) = TOR(5) / TOR(43) * TOR(32)	TEMT3840
1100		TOR(46) = TOR(44) / TOR(5)	TEMT3850
1101		TOR(46) = TOR(46) * CCI(N+267) + CCI(N+273)	TEMT3860
1102		TOR(47) = TOR(46) * CCI(N+279) + CCI(N+285)	TEMT3870
1103		TOR(45) = TOR(5) * (TOR(46) + (TOR(47) - TOR(46)) * (D(1) + D(2) * D(1) * TEMT3880	
1104		H * (N+1) / D(3) + D(3) * D(1) * H * (N+1))	TEMT3890
1105	C		TEMT3900
1106	C	*SUM SUPTS INTO (1) TE HEIGHT*	TEMT3910
1107		TOR(12) = TOR(12) + TOR(44)	TEMT3920
1108		TOR(13) = TOR(13) + TOR(45)	TEMT3930
1109		TOR(7) = TOR(7) + TOR(5)	TEMT3940
1110		IF (H - MD(4)) 184,184,185	TEMT3950
1111	C	*GIVE SUPPLY DATA TO FLAPS	TEMT3960
1112	184	CCM(6) = CCM(6) + TOR(1)	TEMT3970
1113		CCM(22) = CCM(22) + TOR(23)	TEMT3980
1114		CCM(37) = CCM(37) + TOR(32) + TOR(44)	TEMT3990
1115		CCM(38) = CCM(38) + TOR(33) + TOR(45)	TEMT4000
1116		GO TO 185	TEMT4010

00/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINE MODULE -
CARD NO	****	CONTENTS	****
1017	C		TEMT4010
1018	C	"AIL,ELEV,RUD"	TEMT4020
1019	105	CCM(7) = CCM(7) + TOR(1)	TEMT4030
1020		CCM(23) = CCM(23) + TOR(23)	TEMT4040
1021		CCM(30) = CCM(30) + TOR(32) + TOR(44)	TEMT4050
1022		CCM(40) = CCM(40) + TOR(33) + TOR(45)	TEMT4060
1023	106	TE(05) = TOR(1)	TEMT4070
1024		TOR(1) = TOR(43)	TEMT4071
1025	C		TEMT4074
1026	C	"SAVE P.L., SUPTS AND TOTALS FOR PRINT"	TEMT4075
1027		TT(12) = D(2)/ADVID	TEMT4076
1028		TE(N-2) = TOR(24)/TT(12)	TEMT4077
1029		TE(N+4) = TE(05)/TT(12)	TEMT4078
1030		TE(N+2) = TE(N+4)/TE(N-2)	TEMT4079
1031		TE(N+6) = TOR(43)/TT(12)/TE(N-2)	TEMT4080
1032		TE(N+32) = TOR(5)/TT(12)	TEMT4081
1033		TE(N+10) = TE(N+30)/TE(N-2)	TEMT4082
1034		TE(N+10) = TE(05)/TOR(23)	TEMT4083
1035		TE(N+42) = TOR(51)/TOR(23)	TEMT4084
1036		TE(N+46) = TOR(44)/TOR(5)	TEMT4085
1037		TE(N+50) = TOR(45)/TOR(5)	TEMT4086
1038		TE(N+22) = (TOR(32) + TOR(44))/TE(05)	TEMT4087
1039		TE(N+26) = (TOR(33) + TOR(45))/TE(05)	TEMT4088
1040		TE(N+63) = TOR(32)/TOR(43)	TEMT4089
1041		TE(N+67) = TOR(33)/TOR(43)	TEMT4090
1042		IF (TAND(3)) 1061,1060,1061	TEMT4096
1043	1060	TE(N+30) = TE(N+22)	TEMT4090
1044		TE(N+34) = TE(N+46)	TEMT4091
1045		TE(N+71) = TE(N+63)	TEMT4091
1046		TE(N+34) = CCL0(3) - TE(N+26)	TEMT4092
1047		TE(N+50) = CCL0(3) - TE(N+50)	TEMT4093
1048		TE(N+75) = CCL0(3) - TE(N+67)	TEMT4094
1049		GO TO 100	TEMT4094
1050	1061	TT(12) = TE(N+22)*TAND(3) + CCL0(3) - TE(N+66)	TEMT4095
1051		TE(N+30) = TE(N+22)/COSO(3) - TT(12)*SIND(3)	TEMT4096
1052		TE(N+34) = TT(12)*COSO(3)	TEMT4097
1053		TT(12) = TE(N+46)*TAND(3) + CCL0(3) - TE(N+50)	TEMT4098
1054		TE(N+34) = TE(N+46)/COSO(3) - TT(12)*SIND(3)	TEMT4099
1055		TE(N+50) = TT(12)*COSO(3)	TEMT4100
1056		TT(12) = TE(N+63)*TAND(3) + CCL0(3) - TE(N+67)	TEMT4101
1057		TE(N+71) = TE(N+63)/COSO(3) - TT(12)*SIND(3)	TEMT4102
1058		TE(N+75) = TT(12)*COSO(3)	TEMT4103
1059		GO TO 100	TEMT4110
1060	C		TEMT4111
1061	C	"SPOILERS"	TEMT4114
1062	107	CCM(0) = CCM(0) + TOR(1)	TEMT4115
1063		CCM(24) = CCM(24) + TOR(12)	TEMT4116
1064		CCM(41) = CCM(41) + TOR(32)	TEMT4120
1065		CCM(42) = CCM(42) + TOR(33)	TEMT4130
1066	C		TEMT4140
1067	C	"MODEL PANEL DATA FOR INTEGRATION"	TEMT4150
1068	100	CC(1N+63) = TOR(1)	TEMT4160
1069		CC(1N+75) = TOR(23)	TEMT4170
1070		CC(1N+00) = TOR(1)/TOR(23)	TEMT4180
1071		CC(1N+63) = TOR(32)/TOR(1)	TEMT4190
1072		CC(1N+70) = TOR(33)/TOR(1)	TEMT4200
1073		TOR(40) = (CC(1N+63) - TS(1))/TOR(0)	TEMT4210
1074		TOR(50) = D(51) - D(52)	TEMT4220
1075		IF (TOR(40) - TOR(50)) 100,100,100	TEMT4230
1076	100	TOR(50) = D(21) + D(52)	TEMT4240
1077		IF (TOR(40) - TOR(50)) 100,101,101	TEMT4250
1078	100	TOR(40) = TOR(50)	TEMT4260
1079	101	TOR(50) = (D(3)*TOR(40) - D(1))/D(2) - D(3)*TOR(40)	TEMT4270
1080	C		TEMT4280
1081	C		TEMT4290
1082	100	TOR(40) = TOR(1)/TOR(0)*D(2)/D(1) + TOR(50)	TEMT4300
1083		CC(1N+05) = (TOR(54) - D(1))/TOR(40)/TOR(0)	TEMT4310
1084		CC(1N+111) = TOR(40) - CC(1N+05)*TS(1)	TEMT4320
1085	C		TEMT4330
1086	C	"T.B.(2)"	TEMT4330
1087		TOR(40) = CC(1N+03)	TEMT4340

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1000		TOR(48) = TOR(48)*CC(11+123) + CC(11+120)	TEMT4350
1000		TOR(47) = TOR(48)*CC(11+135) + CC(11+142)	TEMT4360
1000		TOR(25) = TOR(47) - TOR(46)	TEMT4370
1001		TOR(48) = (CC(11+99) - TOR(46))/TOR(25)	TEMT4380
1002		TOR(50) = D(51) - D(52)	TEMT4390
1003		IF (TOR(48) - TOR(50)) 193,194,195	TEMT4400
1004	193	TOR(50) = D(21) + D(52)	TEMT4410
1005		IF (TOR(48) - TOR(50)) 194,195,195	TEMT4420
1006	194	TOR(48) = TOR(50)	TEMT4430
1007	195	TOR(50) = (D(3)*TOR(48) - D(1))/(D(2) - D(3)*TOR(48))	TEMT4440
1008	C		TEMT4450
1009	C		TEMT4460
2000	100	CC(11+117) = TOR(50)	TEMT4470
2001	C		TEMT4480
2002	C	*1.0 TE*	TEMT4490
2003		IF (TOR(7)) 204,204,197	TEMT4500
2004	197	CC(11+219) = TOR(7)	TEMT4510
2005		CC(11+225) = TOR(7)	TEMT4520
2006		IF (CC(11+231)) 197,197,197	TEMT4530
2007	197	CC(11+225) = TOR(7)/CC(11+231)	TEMT4540
2008	197	CC(11+237) = TOR(12)/TOR(7)	TEMT4550
2009		CC(11+243) = TOR(13)/TOR(7)	TEMT4560
2010		TOR(48) = (CC(11+237) - TST(1))/TOR(8)	TEMT4570
2011		TOR(50) = D(51) - D(52)	TEMT4580
2012		IF (TOR(48) - TOR(50)) 198,198,198	TEMT4590
2013	198	TOR(50) = D(21) + D(52)	TEMT4600
2014		IF (TOR(48) - TOR(50)) 199,200,200	TEMT4610
2015	199	TOR(48) = TOR(50)	TEMT4620
2016	200	TOR(50) = (D(3)*TOR(48) - D(1))/(D(2) - D(3)*TOR(48))	TEMT4630
2017	C		TEMT4640
2018	C		TEMT4650
2019		TOR(48) = TOR(7)/TOR(8)*D(2)/(D(1) + TOR(50))	TEMT4660
2020		CC(11+249) = (TOR(50) - D(1))*TOR(48)/TOR(8)	TEMT4670
2021		CC(11+255) = TOR(48) - CC(11+249)*TST(1)	TEMT4680
2022	C		TEMT4690
2023	C	*1.0 *	TEMT4700
2024		TOR(48) = CC(11+237)	TEMT4710
2025		TOR(48) = TOR(48)*CC(11+267) + CC(11+273)	TEMT4720
2026		TOR(47) = TOR(48)*CC(11+279) + CC(11+285)	TEMT4730
2027		TOR(25) = TOR(47) - TOR(46)	TEMT4740
2028		TOR(48) = (CC(11+243) - TOR(46))/TOR(25)	TEMT4750
2029		TOR(50) = D(51) - D(52)	TEMT4760
2030		IF (TOR(48) - TOR(50)) 201,202,202	TEMT4770
2031	201	TOR(50) = D(21) + D(52)	TEMT4780
2032		IF (TOR(48) - TOR(50)) 202,203,203	TEMT4790
2033	202	TOR(48) = TOR(50)	TEMT4800
2034	203	TOR(50) = (D(3)*TOR(48) - D(1))/(D(2) - D(3)*TOR(48))	TEMT4810
2035	C		TEMT4820
2036	C		TEMT4830
2037	204	CC(11+261) = TOR(50)	TEMT4840
2038	C		TEMT4850
2039	C	***LOOP FOR NEXT TE DEVICE***	TEMT4860
2040	C		TEMT4870
2041	C	***TEST FOR BK PRI***	TEMT4880
2042	C	*PRINT TOR, TST, CC ARRAYS*	TEMT4890
2043	205	IF (IP(11)) 223,223,208	
2044	223	KK = MD(8)	TEMT5010
2045		IF (MD(3) - M) 224,224,225	TEMT5020
2046	224	KK = TTD(1)	TEMT5030
2047	225	WRITE (8,225) KK	TEMT5040
2048	226	FORMAT (67H) ***TEMT1 SUB. TE DEVICE SUMMARY DATA ARRAYS--TOR,TEMT5050	
2049		1 TST, CC***,226,204*** TEMT1 = IP(11) **/1040 *TE DEVICE,12,	
2050		2 BK TYPE,12,10*/040 TOR)	
2051	227	FORMAT (1H 14,5E10.0)	TEMT5070
2052	228	FORMAT (8H TST)	TEMT5080
2053	229	FORMAT (8H CC)	TEMT5090
2054	C		TEMT5100
2055		DO 230 10+1,100,5	TEMT5110
2056		KK = MD(4)	TEMT5120
2057		WRITE (8,227) KK, TOR(1) 1+KK, KK, 1)	TEMT5130
2058	230	CONTINUE	TEMT5140

05/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP

MING AND EMPENNAGE MODULE -

CARD NO	****	CONTENTS	****
2050		WRITE (6,220)	TEMTS145
2060		DO 231 NN=1,50.5	TEMTS150
2061		IK = NN + ND(4)	TEMTS160
2062		WRITE (6,227)NN,(TS*(1),1-NN,IK,1)	TEMTS170
2063	231	CONTINUE	TEMTS180
2064		WRITE (6,220)	TEMTS185
2065		DO 232 NN=1,300.5	TEMTS190
2066		IK = NN + ND(4)	TEMTS200
2067		WRITE (6,227)NN,(CC(1),1-NN,IK,1)	TEMTS210
2068	232	CONTINUE	TEMTS220
2069	C		TEMTS230
2070	C	"LOOP"	TEMTS240
2071	200	CONTINUE	TEMTS250
2072	C		TEMTS260
2073	200	RETURN	TEMTS260
2074		END	TEMTS260
2075		*****	
2076	C		
2077	C	*****SUBROUTINE LETE1*****	
2078	C	**LE/TE HEIGHT INTEGRATION**	
2079	C		
2080		*****	
2081	C		
2082		SUBROUTINE LETE1	LETE0010
2083	C		LETE0020
2084	C	**INERTIA INTEGRATION SUBROUTINE FOR LE, TE**	LETE0030
2085	C		LETE0040
2086		COMMON T	LETE0050
2087		COMMON /IPRINT/ IP(80)	LETE0051
2088	C		LETE0060
2089		DIMENSION T(6220),D(2060),CD(2000),ND(100),DC(100),	LETE0070
2090		ICC(130),TCS(250),TST(50),TOR(100),CLE(150),CTE(150),CCL(300),	LETE0071
2091		ZTBA(135),TFRDK(80),CHD(50),DXDIN(15),	LETE0072
2092		3DCN(50),	LETE0073
2093		NCIOY(150),	LETE0074
2094		BTAND(8),CCL0(8),SIND(8),COS0(8),T0(300),TND(400),CCT(300)	LETE0075
2095	C		LETE0080
2096		EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),	LETE0090
2097		(DC(1),D(1401)),(T0(1),T(1001)),(TND(1),T(1301)),(TST(1),T(1701)),	LETE0091
2098		2(TOR(1),T(1751)),(TAND(1),T(1221)),(CCL0(1),T(131)),	LETE0092
2099		3(SIND(1),T(1401)),(COS0(1),T(1401)),	LETE0093
2100		4(CCT(1),CD(1051)),(TCS(1),CD(1401)),(CLE(1),CD(051)),	LETE0094
2101		5(TBA(1),T(1051)),(TFRDK(1),T(1005)),	LETE0095
2102		6(CHD(1),CD(1051)),(DXDIN(1),D(1070)),	LETE0096
2103		7(CCN(1),CD(1)),(NCIOY(1),T(011)),	LETE0097
2104		8(100VID,T(571)),	LETE0098
2105		9(CTE(1),CD(001)),(CCL(1),CD(51)),(CCT(1),CD(351))	LETE0099
2106	C		LETE0100
2107		EQUIVALENCE ((1,ND(261)),(N,ND(271)),(NA,ND(281)),(NS,ND(291)),	LETE0110
2108		9(ND,ND(301)),(IK,ND(311))	LETE0120
2109	C		LETE0130
2110	C	"CLEAR STORAGE. DO CALC FOR LE AND TE IN SEQUENCE"	LETE0140
2111	C	10=IK	LETE0150
2112	C	**DO STRUCT, AGRO INTEGRATION: FOR MT, CO, INERTIA FOR MT,	LETE0160
2113	C	PLUT, LDS. CALC 1-6 V,M,T.	LETE0170
2114	C	"SET IK=1 AND ND(101) FOR LE."	LETE0180
2115		100 IK = ND(1)	LETE0190
2116		CHD(40) = DXDIN(2)	LETE0195
2117		DO 101 I=1,300	LETE0200
2118		CC(1) = CCL(1)	LETE0210
2119		101 CONTINUE	LETE0220
2120	C		LETE0230
2121	C	"REMOVE LE DEPTH DATA"	LETE0240
2122		DO 1010 I=1,40	LETE0250
2123		CHD(1) = TFRDK(1)	LETE0260
2124		1010 CONTINUE	LETE0270
2125	C		LETE0280
2126	C	"CLEAR TCS, TST AND TOR"	LETE0290
2127		102 DO 103 I=1,250	LETE0300
2128		TCS(1) = DC(1)	LETE0310
2129		103 CONTINUE	LETE0320

CARD NO	INPUT LISTING	CONTENTS	LETCO
2130	DO 104 I=1,50		LETCO270
2131	TST(1) = DC(3)		LETCO280
2132	TOR(1) = DC(3)		LETCO290
2133	TOR(1+50) = DC(3)		LETCO300
2134	104 CONTINUE		LETCO310
2135	C		LETCO310
2136	C **10 PANEL INTEGRATION DATA IN CC1. SETUP STRIP DATA IN LETCO320		LETCO320
2137	C TOR.**		LETCO330
2138	110 DO 100 N=1,10		LETCO340
2139	TST(0) = TO(N+12) - TO(N+11)		LETCO350
2140	TST(1) = TST(0)/CC(1202)		LETCO360
2141	IF (TST(1) - CC(1203)) 111,112,112		LETCO370
2142	111 TST(0) = INT(TST(0)/CC(1203))		LETCO380
2143	IF (TST(0) - D(3)) 1110,1111,1111		LETCO390
2144	1110 TST(0) = D(3)		LETCO400
2145	1111 TST(1) = TST(0)/TST(0)		LETCO410
2146	112 TST(0) = TST(0)/TST(1)		LETCO420
2147	TST(2) = TO(N+11) - TST(1)		LETCO430
2148	TST(3) = TO(N+11)		LETCO440
2149	TST(4) = TO(N+11) - TST(1)/D(2)		LETCO450
2150	C		LETCO460
2151	C *X-COORD*		LETCO470
2152	TST(7) = (CC(1N+42)-CC(1N+41))/TST(0)		LETCO480
2153	TST(8) = (CC(1N+53)-CC(1N+52))/TST(0)		LETCO490
2154	TST(5) = CC(1N+41) - TST(7)/D(2)		LETCO500
2155	TST(6) = CC(1N+52) - TST(8)/D(2)		LETCO510
2156	TST(11) = TST(1)+TST(11)/D(12)		LETCO520
2157	C		LETCO530
2158	C *DELTA Y STRIP LOOP*		LETCO540
2159	115 DO 116 I=1,3		LETCO550
2160	TST(1+I) = TST(1+I) + TST(1)		LETCO560
2161	116 CONTINUE		LETCO570
2162	TST(5) = TST(5) + TST(7)		LETCO580
2163	TST(6) = TST(6) + TST(8)		LETCO590
2164	TST(0) = TST(4)/COS(D(3))		LETCO600
2165	TST(10) = TST(4)*TAN(D(3)) + CC(0(3))		LETCO610
2166	C		LETCO620
2167	C *SETUP FIXED STRUCT. DATA*		LETCO630
2168	117 TOR(0) = TST(0) - TST(5)		LETCO640
2169	TOR(1) = TST(4)*CC(1N+11) + CC(1N+21)		LETCO650
2170	TOR(3) = TOR(1)/TOR(0)*D(2)/D(1) + CC(1N+31)		LETCO660
2171	TOR(2) = TOR(3)*(CC(1N+31) - D(1))/TOR(0)		LETCO670
2172	C		LETCO680
2173	C *CALC LOCAL FWD AND AFT DEPTH AND CHORDWISE EQU.*		LETCO690
2174	CHD(1) = TST(4)*CHD(0) + CHD(0+10)		LETCO700
2175	CHD(42) = TST(4)*CHD(1+20) + CHD(1+30)		LETCO710
2176	CHD(43) = (CHD(42) - CHD(41))/TOR(0)		LETCO720
2177	C		LETCO730
2178	C *DO DEVICES. LE=3, TE=6. FOR DELTA FIX. LE=1 ONLY.**		LETCO740
2179	C *TE= 0(-) AND 1(+).*		LETCO750
2180	C *TEST FOR DEVICE=0 AND WITHIN STRIP LIMIT.*		LETCO760
2181	C *ASSUME UNIF. DIST. WITH VALUE AT VCO(1).*		LETCO770
2182	C		LETCO780
2183	C *CLEAR TOR(4-9,34-39,64-69)**		LETCO790
2184	DO 119 I=1,6		LETCO800
2185	TOR(1+3) = DC(3)		LETCO810
2186	TOR(1+33) = DC(3)		LETCO820
2187	TOR(1+63) = DC(3)		LETCO830
2188	119 CONTINUE		LETCO840
2189	C		LETCO850
2190	120 KD= 1K+D(3)		LETCO860
2191	DO 130 K=1,KD,1		LETCO870
2192	IF (CC(1K+63)) 130,130,121		LETCO880
2193	121 IF (CC(1K+01) - TST(3)) 122,130,130		LETCO890
2194	122 TOR(00) = TST(1)		LETCO900
2195	IF (TST(2) - CC(1K+01)) 123,127,126		LETCO910
2196	123 IF (TST(3) - CC(1K+07)) 124,124,125		LETCO920
2197	124 TOR(06) = TST(3) - CC(1K+01)		LETCO930
2198	DO TO 120		LETCO940
2199	125 TOR(06) = CC(1K+07) - CC(1K+01)		LETCO950
2200	GO TO 120		LETCO960

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		****
2201	126 IF (TST(2) - CC(1K+07)) 127,129,130		LETE0010
2202	127 IF (CC(1K+07) - TST(3)) 129,129,129		LETE0020
2203	129 TOR(96) = CC(1K+07) - TST(2)		LETE0030
2204	129 TOR(96) = TOR(96)/TST(1)		LETE0040
2205	C		LETE0050
2206	C *EVALUATE STRIP DATA*		LETE0060
2207	130 TOR(K+3) = TOR(96)*(TST(4)*CC(1K+105) + CC(1K+111))		LETE0070
2208	TOR(K+21) = TST(4)*CC(1K+123) + CC(1K+129)		LETE0080
2209	TOR(K+27) = TST(4)*CC(1K+135) + CC(1K+141)		LETE0090
2210	TOR(95) = TOR(K+27) - TOR(K+21)		LETE0100
2211	TOR(K+15) = TOR(K+3)/TOR(95)*D(2)/D(1) + CC(1K+117)		LETE0110
2212	TOR(K+9) = TOR(K+15)*CC(1K+117) - D(1)/TOR(95)		LETE0120
2213	TOR(K+15) = TOR(K+15) - TOR(K+9)*(TOR(K+21) - TST(5))		LETE0130
2214	C		LETE0140
2215	C *CHECK FOR DELTA (1-)*		LETE0150
2216	131 IF (CC(1K+147)) 132,133,132		LETE0160
2217	132 TOR(K+33) = TOR(96)*(TST(4)*CC(1K+177) + CC(1K+183))		LETE0170
2218	TOR(K+51) = TST(4)*CC(1K+195) + CC(1K+201)		LETE0180
2219	TOR(K+57) = TST(4)*CC(1K+207) + CC(1K+213)		LETE0190
2220	TOR(97) = TOR(K+57) - TOR(K+51)		LETE1000
2221	TOR(K+45) = TOR(K+33)/TOR(97)*D(2)/D(1) + CC(1K+189)		LETE1010
2222	TOR(K+39) = TOR(K+45)*CC(1K+189) - D(1)/TOR(97)		LETE1020
2223	TOR(K+45) = TOR(K+45) - TOR(K+39)*(TOR(K+51) - TST(5))		LETE1030
2224	C		LETE1040
2225	C *CHECK FOR DELTA (1-), TE ONLY*		LETE1050
2226	133 IF (IND(1) - 1K) 134,130,130		LETE1060
2227	134 IF (CC(1K+219)) 135,130,135		LETE1070
2228	135 TOR(K+63) = TOR(96)*(TST(4)*CC(1K+249) + CC(1K+255))		LETE1080
2229	TOR(K+81) = TST(4)*CC(1K+267) + CC(1K+273)		LETE1090
2230	TOR(K+87) = TST(4)*CC(1K+279) + CC(1K+285)		LETE1100
2231	TOR(98) = TOR(K+87) - TOR(K+81)		LETE1110
2232	TOR(K+75) = TOR(K+63)/TOR(98)*D(2)/D(1) + CC(1K+281)		LETE1120
2233	TOR(K+69) = TOR(K+75)*CC(1K+281) - D(1)/TOR(98)		LETE1130
2234	TOR(K+75) = TOR(K+75) - TOR(K+69)*(TOR(K+81) - TST(5))		LETE1140
2235	130 CONTINUE		LETE1150
2236	C		LETE1160
2237	C *DO STRIP INTEGRATION BY DELTA X GRIDS*		LETE1170
2238	C *SETUP DATA REQD*		LETE1180
2239	140 TST(18) = TOR(94)/CC(1294)		LETE1190
2240	IF (TST(18) - CC(1295)) 141,142,142		LETE1200
2241	141 TST(17) = INT(TOR(94)/CC(1295))		LETE1210
2242	IF (TST(17) - D(3)) 1410,1411,1411		LETE1215
2243	1410 TST(17) = D(3)		LETE1217
2244	1411 TST(18) = TOR(94)/TST(17)		LETE1220
2245	142 TST(17) = TOR(94)/TST(18)		LETE1230
2246	TST(20) = TST(5)		LETE1240
2247	TST(19) = TST(5) - TST(18)		LETE1250
2248	TST(21) = TST(20) - TST(19)/D(2)		LETE1260
2249	TST(23) = TST(18)*TST(1)		LETE1270
2250	TST(12) = TST(18)*TST(18)/D(12)		LETE1280
2251	C		LETE1290
2252	C *SETUP FLEX-LOADS AERO INTEG. INDEX, NA=1 TO 11		LETE1300
2253	143 NA = ND(1)		LETE1310
2254	144 IF (TOA(NA+1) - TST(4)) 145,146,146		LETE1320
2255	145 NA = NA+ND(1)		LETE1330
2256	IF (IND(10) - NA) 146,146,144		LETE1340
2257	C		LETE1350
2258	C *LOOP ON DELTA X GRIDS*		LETE1360
2259	146 TST(19) = TST(19) + TST(18)		LETE1370
2260	TST(20) = TST(20) + TST(18)		LETE1380
2261	TST(21) = TST(21) + TST(18)		LETE1390
2262	TST(22) = TST(22) - TST(5)		LETE1400
2263	TST(13) = TST(4) - TOA(NA+22)		LETE1410
2264	C		LETE1420
2265	C *CALC LOCAL DEPTH AT GRID CP*		LETE1421
2266	CHD(44) = TST(22)*CHD(43) + CHD(41)		LETE1422
2267	CHD(45) = CHD(44)*CHD(44)*CHD(46)		LETE1423
2268	C		LETE1429
2269	C *CALC BASIC FIXED HEIGHT*		LETE1430
2270	TST(31) = TST(23)*TST(22)*TOR(12) + TOR(3)		LETE1440
2271	TST(24) = TST(31)		LETE1450

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2272	C		LETE1460
2273	C	**DO DEVICE AND DELTA (-) AN (-) IN LOOP OF 3 OR 6.**	LETE1470
2274	147	ND = (K+ND(3))	LETE1480
2275		DO 175 K=1,ND,1	LETE1490
2276		TST(K+31) = DC(3)	LETE1500
2277		TST(K+43) = DC(3)	LETE1501
2278		TST(K+37) = DC(3)	LETE1502
2279		IF (TOR(K+3)) 148,175,148	LETE1510
2280	148	TOR(99) = TST(10)	LETE1520
2281		IF (TOR(K+21) - TST(10)) 149,149,152	LETE1530
2282	149	IF (TST(10) - TOR(K+27)) 150,150,156	LETE1540
2283	150	IF (TOR(K+27) - TST(20)) 151,155,155	LETE1550
2284	151	TOR(99) = TOR(K+27) - TST(10)	LETE1560
2285		GO TO 195	LETE1570
2286	152	IF (TOR(K+21) - TST(20)) 153,156,156	LETE1580
2287	153	TOR(99) = TST(20) - TOR(K+21)	LETE1590
2288		IF (TOR(K+27) - TST(20)) 154,155,155	LETE1600
2289	154	TOR(99) = TOR(K+27) - TOR(K+21)	LETE1610
2290	155	TOR(99) = TOR(99)/TST(10)	LETE1620
2291		TST(K+31) = TOR(99)*TST(23)*(TST(22)*TOR(K+9) + TOR(K+15))	LETE1630
2292		TST(24) = TST(24) + TST(K+31)	LETE1640
2293	C		LETE1640
2294	C		LETE1650
2295	C	**DELTA (-)**	LETE1660
2296	156	IF (TOR(K+33)) 157,165,157	LETE1670
2297	157	TOR(99) = TST(10)	LETE1680
2298		IF (TOR(K+51) - TST(10)) 158,158,161	LETE1680
2299	158	IF (TST(10) - TOR(K+57)) 159,165,165	LETE1700
2300	159	IF (TOR(K+57) - TST(20)) 160,164,164	LETE1710
2301	160	TOR(99) = TOR(K+57) - TST(10)	LETE1720
2302		GO TO 164	LETE1730
2303	161	IF (TOR(K+51) - TST(20)) 162,165,165	LETE1740
2304	162	TOR(99) = TST(20) - TOR(K+51)	LETE1750
2305		IF (TOR(K+57) - TST(20)) 163,164,164	LETE1760
2306	163	TOR(99) = TOR(K+57) - TOR(K+51)	LETE1770
2307	164	TOR(99) = TOR(99)/TST(10)	LETE1780
2308		TST(K+37) = TOR(99)*TST(23)*(TST(22)*TOR(K+39) + TOR(K+43))	LETE1790
2309		TST(24) = TST(24) - TST(K+37)	LETE1800
2310	C		LETE1800
2311	C		LETE1810
2312	C	**TEST FOR DELTA (-), TE ONLY**	LETE1820
2313	165	IF (ND(1) - (K) 166,175,175	LETE1830
2314	166	IF (TOR(K+63)) 167,175,167	LETE1840
2315	167	TOR(99) = TST(10)	LETE1850
2316		IF (TOR(K+81) - TST(10)) 168,168,171	LETE1860
2317	168	IF (TST(10) - TOR(K+87)) 169,175,175	LETE1870
2318	169	IF (TOR(K+87) - TST(20)) 170,174,174	LETE1880
2319	170	TOR(99) = TOR(K+87) - TST(10)	LETE1890
2320		GO TO 174	LETE1900
2321	171	IF (TOR(K+81) - TST(20)) 172,175,175	LETE1910
2322	172	TOR(99) = TST(20) - TOR(K+81)	LETE1920
2323		IF (TOR(K+87) - TST(20)) 173,174,174	LETE1930
2324	173	TOR(99) = TOR(K+87) - TOR(K+81)	LETE1940
2325	174	TOR(99) = TOR(99)/TST(10)	LETE1950
2326		TST(K+43) = TOR(99)*TST(23)*(TST(22)*TOR(K+89) + TOR(K+75))	LETE1960
2327		TST(24) = TST(24) + TST(K+43)	LETE1970
2328	175	CONTINUE	LETE1980
2329	C		LETE1990
2330	C	**COMPUTE 10 PITCH AND ROLL FOR AERO AND STRUCT. SYS.**	LETE2000
2331	176	CHD(47) = CHD(45)*TST(24)	LETE2005
2332		TST(25) = TST(24)*TST(12) + CHD(47)	LETE2010
2333		TST(26) = TST(24)*TST(11) + CHD(47)	LETE2020
2334		TST(27) = TST(25)*COSD(3) + TST(26)*SIND(3)	LETE2030
2335		TST(28) = TST(26)*COSD(3) + TST(25)*SIND(3)	LETE2040
2336	C		LETE2050
2337	C	**BLM GRID DATA, 1. LOADS(AERO), 2. FLUTTER(STRUCT)**	LETE2060
2338	C	3. HEIGHT(STRUCT)**	LETE2070
2339	180	TST(14) = TOR(NA+32) - TST(2)	LETE2080
2340		TCS(NA+113) = TCS(NA+113) + TST(24)	LETE2090
2341		TST(20) = TST(24)*TST(13)	LETE2100
2342		TST(30) = TST(24)*TST(14)	LETE2110

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2343		TCS(NA+124) = TCS(NA+124) + TST(29)	LETE2120
2344		TCS(NA+135) = TCS(NA+135) + TST(30)	LETE2130
2345		TCS(NA+146) = TCS(NA+146) + TST(30)*TST(14)	LETE2140
2346		TCS(NA+157) = TCS(NA+157) + TST(23)*TST(13)	LETE2150
2347		TCS(NA+168) = TCS(NA+168) + TST(25)	LETE2160
2348		TCS(NA+179) = TCS(NA+179) + TST(26)	LETE2170
2349		TCS(NA+227) = TCS(NA+227) + TST(30)*TST(14) + TST(29)*TST(13) + TST(25)*TST(17)	LETE2171
2350		IT(24) = (TST(11) + TST(12))	LETE2172
2351	C		LETE2179
2352	C	**STRUCT COORD OF GRID CENTROID**	LETE2180
2353	101	TST(16) = (TST(10) - TST(21))*COS(3)	LETE2190
2354		TST(15) = TST(9) - (TST(10) - TST(21))*SIN(3)	LETE2200
2355	C		LETE2208
2356	C	**SETUP FLUTTER STRIP INDEX=NS*	LETE2210
2357		NS = ND(1)	LETE2220
2358	102	IF (TO: NS+5) - TST(15) 103, 104, 104	LETE2230
2359	103	NS = NS + ND(1)	LETE2240
2360		IF (ND(1) - NS) 104, 104, 102	LETE2250
2361	104	TST(17) = TST(15) - TO(NS)	LETE2260
2362		TST(29) = TST(24)*TST(17)	LETE2270
2363		TST(30) = TST(24)*TST(16)	LETE2280
2364		TCS(NS+36) = TCS(NS+36) + TST(24)	LETE2290
2365		TCS(NS+47) = TCS(NS+47) + TST(29)	LETE2300
2366		TCS(NS+58) = TCS(NS+58) + TST(30)	LETE2310
2367		TCS(NS+69) = TCS(NS+69) + TST(30)*TST(16)	LETE2320
2368		TCS(NS+80) = TCS(NS+80) + TST(29)*TST(17)	LETE2330
2369		TCS(NS+91) = TCS(NS+91) + TST(27)	LETE2340
2370		TCS(NS+102) = TCS(NS+102) + TST(28)	LETE2350
2371	C		LETE2358
2372	C	**HEIGHT ANALYSIS DATA. INDEX=NS*	LETE2360
2373	105	NS=ND(1)	LETE2370
2374		TST(17) = TST(15)	LETE2380
2375		IF (TO(1) - TST(17)) 106, 109, 109	LETE2390
2376	106	NS = NS+ND(1)	LETE2400
2377		IF (NS - ND(12)) 107, 100, 100	LETE2410
2378	107	IF (TST(15) - TO(NS)) 108, 100, 108	LETE2420
2379	108	TST(17) = TST(15) - TO(NS-1)	LETE2430
2380	109	TST(29) = TST(24)*TST(17)	LETE2440
2381		TCS(NS) = TCS(NS) + TST(24)	LETE2450
2382		TCS(NS+12) = TCS(NS+12) + TST(29)	LETE2460
2383		TCS(NS+24) = TCS(NS+24) + TST(30)	LETE2470
2384	C		LETE2478
2385	C	**TEST FOR NEXT GRID*	LETE2480
2386	100	IF (TST(6) - TST(21) - TST(18)) 101, 101, 146	LETE2490
2387	C		LETE2498
2388	C	**TEST FOR NEXT STRIP*	LETE2500
2389	101	IF (TO: NS+12) - TST(4) - TST(11) 100, 100, 115	LETE2510
2390	100	CONTINUE	LETE2520
2391	C		LETE2521
2392	C	****INTEGRATION OF 10 PANELS COMPLETED. PROCESS CALC. DATA*	LETE2522
2393	C	**CORRECT INTEGRATED HEIGHTS**	LETE2523
2394		TOR(94) = DC(3)	LETE2524
2395		TOR(95) = DC(3)	LETE2525
2396		TOR(96) = DC(3)	LETE2526
2397		DO 2001 I=1,12	LETE2527
2398		TOR(94) = TOR(94) + TCS(I)	LETE2528
2399		IF (I - ND(11)) 2000, 2000, 2001	LETE2529
2400	2000	TOR(95) = TOR(95) + TCS(I+36)	LETE2530
2401		TOR(96) = TOR(96) + TCS(I+113)	LETE2531
2402	2001	CONTINUE	LETE2532
2403		TOR(97) = CCH(IK)/TOR(94)	LETE2533
2404		TOR(98) = CCH(IK)/TOR(95)	LETE2534
2405		TOR(99) = CCH(IK)/TOR(96)	LETE2535
2406	C		LETE2536
2407	C	**SCALE H, MK, MY, MDX, MYY*	LETE2537
2408		DO 2002 I=1,77	LETE2538
2409		TCS(I+36) = TOR(99)*TCS(I+36)	LETE2539
2410		TCS(I+113) = TOR(98)*TCS(I+113)	LETE2540
2411		IF (I - 36) 2002, 2002, 2003	LETE2541
2412	2002	TCS(I) = TOR(97)*TCS(I)	LETE2542
2413	2003	CONTINUE	LETE2543

08/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	CONTENTS		
2414	C		LETE2544
2415	DO 2004 I=1,10		LETE2545
2416	TCS(I+227) = TCS(I+227)+TGR(99)		LETE2546
2417	2004 CONTINUE		LETE2547
2418	C		LETE2548
2419	200 DO 200 N=1,12		LETE2550
2420	K = 13 - N		LETE2560
2421	TCS(K+101) = TCS(K)		LETE2570
2422	TCS(K+203) = TCS(K+12)		LETE2580
2423	TCS(K+215) = TCS(K+24)		LETE2590
2424	IF (ND(1) - N) 201,200,209		LETE2600
2425	201 TCS(K+101) = TCS(K+101) + TCS(K+102)		LETE2610
2426	TCS(K+215) = TCS(K+215) + TCS(K+216)		LETE2620
2427	IF (N - ND(12)) 202,203,203		LETE2630
2428	202 TCS(K+203) = TCS(K+203) + TCS(K+204) + TCS(K+102)+(TGR(K)-TGR(K-1))		LETE2640
2429	DO TO 200		LETE2650
2430	203 TCS(204) = TCS(204) + TCS(205) + TCS(103)+TGR(1)		LETE2660
2431	C		LETE2660
2432	C ***DELETE CARDS 2660-2720***		LETE2670
2433	C		LETE2720
2434	200 CONTINUE		LETE2730
2435	C **FLUTTER AND LOADS STRIP DATA**		LETE2740
2436	210 DO 210 N=1,11		LETE2750
2437	TCS(N+00) = TCS(N+00) + TCS(N+01)		LETE2760
2438	TCS(N+00) = TCS(N+00) + TCS(N+102)		LETE2770
2439	TCS(N+146) = TCS(N+146) + TCS(N+100)		LETE2780
2440	TCS(N+157) = TCS(N+157) + TCS(N+170)		LETE2790
2441	C		LETE2800
2442	C		LETE2910
2443	210 CONTINUE		LETE2920
2444	C		LETE2921
2445	C ***CHECK BK PRINT***		LETE2922
2446	C **PRINT SUMMARY ON IP(10)**		LETE2922
2447	IF (IP(10)12100,2100,220		
2448	2100 WRITE (0,907)		LETE2930
2449	IF (IK - ND(1)) 2105,2105,2100		LETE2930
2450	C		LETE2930
2451	2105 WRITE (0,2106)		LETE2940
2452	2106 FORMAT (20H **LEADING EDGE**)		LETE2941
2453	2107 FORMAT (30H **TRAILING EDGE**)		LETE2942
2454	DO TO 2100		LETE2943
2455	2100 WRITE (0,2107)		LETE2944
2456	2100 WRITE (0,904)		LETE2945
2457	C		LETE2946
2458	902 FORMAT (1H 14,SE10.0)		LETE2947
2459	904 FORMAT (04D TCS)		LETE2948
2460	C		LETE2949
2461	907 FORMAT (52H **LE/TE INERTIA INTEGRATION SUBR FINAL DATA**,		LETE2950
2462	I 30X,20H** LETE(1 - IP(10) **)		LETE2951
2463	908 FORMAT (04D CLE1)		
2464	909 FORMAT (04D CTE1)		
2465	910 FORMAT (04D TMD)		
2466	DO 9070 N1=1,250.5		
2467	K2 = N1 + ND(4)		
2468	WRITE (0,902)N1,(TCS(1)),11-N1,K2,1)		
2469	9070 CONTINUE		
2470	C		LETE2948
2471	C ***MOVE DATA TO FINAL STORAGE***		LETE2950
2472	220 IF (IK - ND(2)) 221,230,230		LETE2955
2473	221 DO 222 I=1,36		LETE2960
2474	CLE(I)= TCS(I)		LETE2970
2475	TMD(I+101) = TCS(I+101)		LETE2980
2476	222 CONTINUE		LETE2990
2477	DO 223 I=1,95		LETE3000
2478	CLE(I+36) = TCS(I+36)		LETE3010
2479	CLE(I+91) = TCS(I+113)		LETE3020
2480	223 CONTINUE		LETE3030
2481	C		LETE3030
2482	DO 2230 I=1,10		LETE3040
2483	C10Y(I+10) = TCS(I+227)		LETE3041
2484	2230 CONTINUE		LETE3042

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	*****	CONTENTS	*****
2405	C		LETE3040
2406	C	*AME MT/IN. TEST SHEEP OF EA*	LETE3050
2407		DO 224 1-1.10	LETE3060
2408		THD(1+331) = TCS(1+11)/(TG(1+1) - TG(1))	LETE3070
2409	224	CONTINUE	LETE3080
2400		IF (TAND(31) 225,227,226	LETE3090
2401	C		LETE3099
2402	C	*POSITIVE EA. PNL 12-0, CALC PNL 1.*	LETE3100
2403	225	THD(331) = TCS(11/(SIND(31)*(TG(23) - TG(198)))	LETE3110
2404		GO TO 227	LETE3120
2405	C		LETE3129
2406	C	*NEGATIVE EA. PNL 1-0, CALC PNL 12.*	LETE3130
2407	226	THD(341) = TCS(12/(SIND(31)*(TG(33) - TG(166)))	LETE3140
2408	C		LETE3150
2409	C	*SETUP FOR TE. SET IK=2 AND KD(10) FOR TE. HOME DATA	LETE3160
2500	227	DO 220 1-1,300	LETE3170
2501		CC(1) = CC(1)	LETE3180
2502	220	CONTINUE	LETE3185
2503	C		LETE3187
2504	C	*CHECK PRINT. IP=10**	LETE3188
2505		IF (IP(10) 2200,2200,2201	
2506	2200	WRITE (6,900)	LETE3190
2507		DO 907E NI=1,150,5	
2508		K2 = NI + ND(4)	
2509		WRITE (6,902)NI,(CLE(11),11=NI,K2,1)	
2510	907E	CONTINUE	
2511		WRITE (6,910)	
2512		DO 907I NI=1,400,5	
2513		K2 = NI + ND(4)	
2514		WRITE (6,902)NI,(THD(11),11=NI,K2,1)	
2515	907I	CONTINUE	
2516	C		
2517	2201	IK = ND(2)	LETE3191
2518		DO 2202 1-1,20	LETE3193
2519		CHD(1) = TFRDK(1+40)	LETE3194
2520		CHD(1+20) = DC(3)	LETE3195
2521	2202	CONTINUE	LETE3196
2522		CHD(40) = CHD(1+3)	LETE3197
2523		GC TO 102	LETE3200
2524	C		LETE3210
2525	C	*SAVE TE DATA*	LETE3220
2526	230	DO 231 1-1,36	LETE3230
2527		CTE(1) = TCS(1)	LETE3240
2528		THD(1+197) = TCS(1+191)	LETE3250
2529	231	CONTINUE	LETE3260
2530		DO 232 1-1,95	LETE3270
2531		CTE(1+36) = TCS(1+36)	LETE3280
2532		CTE(1+91) = TCS(1+113)	LETE3290
2533	232	CONTINUE	LETE3300
2534	C		LETE3309
2535		DO 2327 1-1,10	LETE3310
2536		CLOY(1+26) = TCS(1+227)	LETE3311
2537	2320	CONTINUE	LETE3312
2538	C		LETE3319
2539	C	*AME MT/IN FOR TE. TEST EA	LETE3320
2540		DO 233 1-1,10	LETE3330
2541		THD(1+345) = TCS(1+11)/(TG(1+1) - TG(1))	LETE3340
2542	233	CONTINUE	LETE3350
2543		IF (TAND(31) 234,235,2340	LETE3360
2544	C		LETE3369
2545	C	*POSITIVE EA. PNL 1-0, CALC PNL 12.	LETE3370
2546	234	THD(350) = TCS(12/(SIND(31)*(TG(33) - TG(232)))	LETE3380
2547		GO TO 236	LETE3390
2548	C		LETE3399
2549	C	*NEG. EA. PNL 12-0, CALC PNL 1.*	LETE3400
2550	2340	THD(345) = TCS(11/(SIND(31)*(TG(23) - TG(232)))	LETE3410
2551	C		LETE3420
2552	C	*CHECK FOR PRINT. IP=10**	LETE3430
2553	235	IF (IP(10) 236,236,2360	
2554	236	WRITE (6,909)	LETE3450
2555		DO 907N NI=1,150,5	

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODALS -
CARD NO	CONTENTS		
2627	134 VC(30) = TT(1)*VC(1+24) + VC(1+35)		CT018357
2628	VC(31) = VC(30)/VC(10)		CT018358
2629	C		CT018359
2630	C ***TEST FOR STRUCTURAL X(1) NOT ZERO***		CT018370
2631	136 IF (TT(2)) 137,170,137		CT018380
2632	137 IF (TAND(3)) 140,130,140		CT018390
2633	138 DO 139 I=1,7		CT018400
2634	VC(1+10) = TT(1)		CT018410
2635	VC(1+17) = VC(1)		CT018420
2636	139 CONTINUE		CT018430
2637	GO TO 160		CT018440
2638	C		CT018450
2639	140 VC(20) = TT(2) - COTEA*TT(1)		CT018470
2640	DO 141 I=1,5		CT018475
2641	VC(20) = COTEA - TAND(1)		CT018480
2642	VC(1+1) = (CCLD(1) - VC(20))/VC(20)		CT018490
2643	VC(1+10) = VC(1+1)*TAND(1) + CCLD(1)		CT018500
2644	141 CONTINUE		CT018510
2645	C		CT018520
2646	C ***E INTERPOLATION**		CT018530
2647	I = ND(1)		CT018540
2648	142 VC(20) = COTEA - VC(1+ND)		CT018550
2649	IF (VC(20)) 145,143,145		CT018560
2650	143 IF (ND(1) - 1) 144,145,144		CT018570
2651	144 I = ND(1)		CT018580
2652	GO TO 144		CT018585
2653	1440 I = I + ND(1)		CT018590
2654	1441 VC(20) = COTEA - VC(1+ND)		CT018595
2655	145 VC(1) = (VC(1+75) - VC(20))/VC(20)		CT018600
2656	IF (VC(1+41) - VC(1)) 146,146,146		CT018610
2657	146 IF (I - ND(1)) 147,146,146		CT018620
2658	147 I = I+ND(1)		CT018630
2659	GO TO 142		CT018640
2660	148 VC(10) = VC(1)*VC(1+ND) + VC(1+75)		CT018650
2661	C		CT018660
2662	C ***E INTERPOLATION**		CT018670
2663	150 I = ND(1)		CT018680
2664	151 VC(20) = COTEA - VC(1+110)		CT018690
2665	IF (VC(20)) 154,152,154		CT018700
2666	152 IF (ND(1) - 1) 153,154,153		CT018710
2667	153 I = ND(1)		CT018720
2668	GO TO 153		CT018725
2669	1530 I = I + ND(1)		CT018730
2670	1531 VC(20) = COTEA - VC(1+110)		CT018735
2671	154 VC(1) = (VC(1+121) - VC(20))/VC(20)		CT018740
2672	IF (VC(1+67) - VC(17)) 155,157,157		CT018750
2673	156 IF (I - ND(1)) 156,157,157		CT018760
2674	156 I = I+ND(1)		CT018770
2675	GO TO 151		CT018780
2676	157 VC(20) = VC(17)*VC(1+110) + VC(1+121)		CT018790
2677	C		CT018800
2678	C ***CALC CHORDS***		CT018810
2679	160 VC(25) = (VC(24) - VC(110))/COS(13)		CT018820
2680	VC(26) = (VC(23) - VC(110))/COS(13)		CT018830
2681	VC(27) = (VC(22) - VC(110))/COS(13)		CT018840
2682	C		CT018850
2683	C		CT018860
2684	C ***TEST FOR BK PRINT***		CT018870
2685	170 IF (IP(1)) 171,171,190		
2686	171 WRITE (6,170) TT(1), TT(2)		CT018880
2687	C		CT018890
2688	172 FORMAT(14G,20H,7HTT(1) = ,F8.3,5H,7HTT(2) = ,F8.3/6H VC)		
2689	C		CT018900
2690	802 FORMAT (14H,14,3E10 0)		CT018910
2691	C		CT018920
2692	DO 804 N=1,25,5		CT018930
2693	K2 = N + ND(1)		CT018940
2694	WRITE (6,802) N, VC(1), I=N, K2, 1)		CT018950
2695	804 CONTINUE		CT018960
2696	C		CT018970
2697	C ***EXIT***		CT018980

05/10/74	INPUT LISTING	AUTOFLY CHART SET - SHEEP	WING AND EMPLOYMENT MODULE -
CARD NO	****	CONTENTS	****
2000	100 RETURN		CT01:000
2000	END		CT01:000

OVERLAY (15,0)

FUEL, CONTENTS AND CONCENTRATED MASSES,
WEIGHT AND MASS PROPERTIES ANALYSIS

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08/10/74      INPUT LISTING      AUTOFLOW CHART SET - SHEEP      WING AND EMPENNAGE MODULE -

FORTRAN MODULE      (LIST,AUTOSEG)

CARD NO      CONTENTS      ****

1      C*****
2      C
3      C      ****PROGRAM OLAY15****
4      C      ***PROGRAM FOR THIRD OVERLAY OF WING/EMPENNAGE MODULE***
5      C      FUEL, CONTENTS, CONC MASS ITEMS - HEIGHT AND MASS PROPERTIES
6      C
7      C*****
8      C
9      C      PROGRAM OLAY15
10     C
11     C      COMMON T(7120)
12     C
13     C      COMMON /MISC/ NMISC(100)
14     C
15     C      REMIND 24
16     C
17     C      BUFFER IN(24,1)(T(1),T(7120))
18     C
19     C      IF(UNIT(24))10,10,10
20     C
21     C      10 CALL MCONT
22     C
23     C      REMIND 24
24     C
25     C      BUFFER OUT(24,1)(T(1),T(7120))
26     C
27     C      IF(UNIT(24))20,20,20
28     C
29     C      20 CONTINUE
30     C
31     C      END
32     C*****
33     C
34     C      ****SUBROUTINE MCONT****
35     C      **FUEL, CONTENTS, CONC. MASS HEIGHT ESTIMATION CONTROL**
36     C
37     C*****
38     C
39     C      SUBROUTINE MCONT      MCONT010
40     C      MCONT011
41     C      ***CONTROL SUBR FOR CONTENTS HEIGHT AND DISTRIBUTIONS*** MCONT020
42     C      MCONT030
43     C      COMMON T      MCONT040
44     C      MCONT050
45     C      DIMENSION T(6220),D(2000),CD(2000),ND(100),DC(100), MCONT060
46     C      ITG(300),TMD(400),CCM(50),TWMT(250),TCS(250), MCONT061
47     C      CCEL(1(150), MCONT062
48     C      SCC(1(300), MCONT063
49     C      NTSAM(135),TFRMD(60), MCONT064
50     C      BCN(1(150),CFL1(150),CFL2(150) MCONT065
51     C      MCONT070
52     C      EQUIVALENCE (D(1),T(200)),(CD(1),T(412)),(ND(1),T(612)), MCONT080
53     C      (DC(1),D(140)), MCONT081
54     C      Z(10(1),T(100)),(TMD(1),T(130)),(TWMT(1),CD(51)),(CCM(1),CD(1)), MCONT082
55     C      Z(CN(1(1),CD(125)),(CFL1(1),CD(95)),(CFL2(1),CD(110)), MCONT083
56     C      N(CCEL(1(1),CD(50)), MCONT084
57     C      S(CCE(1(1),CD(105)), MCONT085
58     C      S(NTSAM(1),T(105)),(TFRMD(1),T(100)), MCONT086
59     C      S(TCS(1),D(140)) MCONT088
60     C      MCONT090
61     C      MCONT100
62     C      **MISC MTS, CEL, DATA** MCONT110
63     C      400 CALL MISCNT MCONT120
64     C      MCONT130
65     C      **SAVE MISC MASS DATA IN RCD 153, CH(1(1)-150)** MCONT140
66     C      **PROCESS CEL DATA INTO CCEL ARRAY FOR RCD 154** MCONT150
67     C      **CCEL(1(1)-91)=TCS(144-234) MCONT160
68     C      MCONT170
69     C      CALL WRITMS (1,CH(1(1),150,153) MCONT180
70     C      MCONT190

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08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	****	CONTENTS	****
71	C	**SAVE CEL DATA**	MCNT200
72		DO 901 I=1,91	MCNT210
73		CCOL(I)=TCS(I+143)	MCNT215
74		901 CONTINUE	MCNT220
75	C		MCNT221
76	C	**SAVE TIP AND T-TAIL DATA**	MCNT222
77		TMB(17)=TCS(242)	MCNT225
78		DO 903 I=1,11	MCNT230
79		CCOL(I+130)=CC(I+90)	MCNT235
80		IF (I=ND(5)) 902,902,903	MCNT236
81		902 TMB(I+80)=TCS(I+241)	MCNT237
82		903 CONTINUE	MCNT240
83	C		MCNT241
84	C	**TIP HEIGHT, LB/SIDE**	MCNT242
85		TMB(5)=CC(181)	MCNT250
86	C		MCNT255
87	C		MCNT500
88	C	**FUEL AND INITIAL T.BOX DATA**	MCNT510
89		900 CALL FDIS	MCNT520
90	C		MCNT530
91	C	**SAVE TBA DATA IN RCD 145--135 CELLS**	MCNT531
92	C		MCNT538
93		CALL WRITBS (1,TBA(1),135,145)	MCNT540
94	C		MCNT550
95	C	**SAVE FUEL, BOX AND GENL DATA*	MCNT560
96	C	*RCD 146 = TBA(1-300)*	MCNT570
97	C	*RCD 147 = TMB(1-400)*	MCNT580
98	C	*RCD 148 = CCM(1-50)*	MCNT590
99	C	*RCD 151 = CFL(1(1)-150), FUEL CELL 1 MASS DATA*	MCNT600
100	C	*RCD 152 = CFL(2(1)-150), FUEL CELL 2 MASS DATA*	MCNT610
101	C		MCNT620
102		CALL WRITBS (1,TB(1),300,146)	MCNT630
103		CALL WRITBS (1,TMB(1),400,147)	MCNT640
104		CALL WRITBS (1,CCM(1),50,148)	MCNT650
105		CALL WRITBS (1,CFL(1(1)-150,151)	MCNT660
106		CALL WRITBS (1,CFL(2(1)-150,152)	MCNT670
107	C		MCNT680
108	C		MCNT690
109	C		MCNT700
110	C	**CCOL ARRAY, 1-91-CEL DATA, 92-150-CEL TB DATA**	MCNT710
111		DO 901 I=1,90	MCNT720
112		CCOL(I+91)=CC(I+105)	MCNT730
113		901 CONTINUE	MCNT740
114	C		MCNT750
115	C	**SAVE FINAL CCOL ARRAY DATA IN RCD 154**	MCNT760
116		CALL WRITBS (1,CCOL(1),150,154)	MCNT770
117	C		MCNT780
118	C		MCNT800
119	C	***EXIT***	MCNT901
120		999 RETURN	MCNT900
121		END	MCNT900
122		*****	
123	C		
124	C	****SUBROUTINE HISCNT****	
125	C	**HISC CONTENT HEIGHT/DISTRIBUTION EVAL/CONTROL**	
126	C		
127		*****	
128	C		
129		SUBROUTINE HISCNT	HISC0010
130	C		CEL00020
131	C	**CONCENTRATED BM AND HISC DIST. WT. LOAD AND INERTIA.**	CEL00030
132	C		CEL00040
133	C	**REVISION-01-15-73-NEW FORMAT.	CEL00050
134	C	*ORIGINAL--01-17-66.	CEL00060
135	C		CEL00070
136		COMMON T	CEL00080
137		COMMON /PRINT/ IP(80)	CEL00091
138	C		CEL00090
139		DIMENSION T(620),D(2000),CD(2000),ND(100),BC(100),	CEL00100
140		ITB(300),TMB(400),CC(1300),TCS(250),CMI(150),TS(150),TT(24),	CEL00101
141		ZVC(150),TAND(9),CCLD(9),SIND(6),CDSO(6),TOR(100),TBM(11),TGA(135),CDL00102	

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
142		DDMT(3),DCOL(100),DTIP(15),TWMT(250),DIM(15),CHD(50)	COL00109
143	C		COL00110
144		EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)),	COL00120
145		(DC(1),D(1401)),(TG(1),T(1001)),(TMD(1),T(1301)),(TST(1),T(1701)),COL00121	
146		2(VC(1),T(201)),(TT(1),T(411)),(CC(1),CD(1051)),(TCS(1),CD(1401)),COL00122	
147		3(CH(1),CD(1251)),(TOR(1),T(1751)),(TMS,T(102)),(CCLS,T(93)),COL00123	
148		4(TAND(1),T(1221)),(CCLO(1),T(131)),(SIND(1),T(1401)),(OM,D(107)),COL00124	
149		5(COSO(1),T(1461)),(COTEA,T(152)),(BO2,T(112)),(BS102,T(115)),COL00125	
150		6(CTIP,T(137)),(SBOX,T(103)),(TBM(1),T(266)),(TGA(1),T(1051)),COL00126	
151		7(DTIP(1),D(1995)),(DMT(1),D(1020)),(DCOL(1),D(1095)),COL00127	
152		8(DKD(1),D(1070)),(DIMID,D(1271)),(CHD(1),CD(1951)),COL00128	
153		9(I,ND(261)),(M,NL(71)),(L,ND(201)),(K,ND(301)),(N,ND(311)),(J,ND(291))COL00129	
154		A,(TWMT(1),CD(511))	COL00130
155	C		COL00139
156	C		COL00140
157	C	***CLEAR CCI,CHI,TCS AND TWMT ARRAYS***	COL00150
158		100 DO 101 1-1,150	COL00160
159		CCI(1) = DC(3)	COL00170
160		CCI(1+150) = DC(3)	COL00180
161		CHI(1) = DC(3)	COL00190
162		101 CONTINUE	COL00200
163		DO 102 1-1,250	COL00210
164		TCS(1) = DC(3)	COL00220
165		TWMT(1) = DC(3)	COL00225
166		102 CONTINUE	COL00230
167	C		COL00239
168		DO 1020 1-1,50	COL00240
169		CHD(1) = DC(3)	COL00241
170		1020 CONTINUE	COL00242
171	C		COL00243
172	C	***ORDER OF CALC: 1. MISC DIST. ITEMS, 2. COL***	COL00250
173	C	***MISC ITEMS- TIP, UNIF. DIST. MISC, 2 LINE DIST. ITEMS	COL00260
174	C	FOR S/C, SUB/SYS. AND 6 POINT ITEMS FOR S/C, SUB/SYS.*	COL00270
175	C		COL00280
176	C	***COL ITEMS-8. NO. 1,2,3 CAN BE EMPENDABLES	COL00290
177	C	NO. 4,5,6 ARE FIXED ITEMS.*	COL00300
178	C		COL00310
179	C	***TIP. YEA(1) TO 8/2***	COL00320
180		103 TSI(1) = BO2 - T(122)	COL00330
181	C		COL00331
182	C	***CHECK BK PRINT***	COL00332
183	C	***PRINT ID 14 = SUMMARY, 13 = DETAILS***	COL00335
184		900 FORMAT (B41) ***MISCNT SUBR--MISC CONTENT HTS--CCI, TST, TOR ARRAYS COL00342	
185		1YS***,2BX,21M*** MISCNT - (P(13) **)	
186	C		COL00344
187		902 FORMAT (14,SE10.8)	
188		903 FORMAT (B40 CCI)	
189		905 FORMAT (B40 TST)	
190		906 FORMAT (B40 TOR)	
191	C		COL00348
192		1030 IF (TST(1)) 112,112,104	COL00349
193		104 IF (ABS(TST(1)) - D(12)) 112,112,1040	COL00350
194		1040 TT(1) = T(122)	COL00355
195		TT(2) = DC(3)	COL00360
196	C		
197		IF (P(15)) 9502,9502,9505	
198		9502 WRITE(6,9503)	
199		9503 FORMAT(141,BBX,41M** CTOTZ (CALLED FROM MISCNT) - (P(15) **)	
200	C		
201		9505 CALL CTOTZ	
202		TST(13) = VC(31)	COL00380
203		DO 105 1-1,10	COL00390
204		TST(1+1) = VC(1)	COL00400
205		105 CONTINUE	COL00410
206		TT(1) = BO2	COL00420
207		CALL CTOTZ	COL00430
208		TST(24) = VC(31)	COL00440
209		DO 106 1-1,10	COL00450
210		TST(1+13) = VC(1)	COL00460
211		106 CONTINUE	COL00470
212	C		COL00480

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
213		$CC1(92) = TST(1)/D(17) + (TST(18) + TST(21))/D(2)$	COL 00488
214	C		COL 00489
215	C	$*Y(C6) = FIK*TA/TIP(1)$	COL 00490
216		$TST(2) = DTIP(6) + TST(11)/TST(10)$	COL 00500
217		$CC1(94) = T(22) + TST(11)/(D(1) + D(2) + TST(21)/(D(3) + D(3) + TST(21))$	COL 00510
218		$TT(1) = CC1(94)$	COL 00520
219		CALL CT02	COL 00530
220		$CC1(95) = YC(11) + YC(71)/D(2)$	COL 00540
221		$TST(48) = YC(30)$	COL 00545
222		$TST(49) = D(1)H(4) + TST(48) + TST(48)$	COL 00548
223		$TST(25) = CC1(94) + TAND(3) + CCLO(3)$	COL 00550
224		$TST(26) = TST(25) - CC1(95)$	COL 00560
225		$CC1(97) = COSO(3) + TST(26)$	COL 00570
226		$CC1(98) = CC1(94)/COSO(3) - TST(26)/SINO(3)$	COL 00580
227	C		COL 00590
228	C	$*TIP HEIGHT*$	COL 00600
229		$CC1(93) = DTIP(1)$	COL 00610
230		IF (DTIP(1)) 107,107,108	COL 00620
231	107	$TST(27) = DTIP(8) + (DTIP(10)/YC(11)) + DTIP(9) + D(1)$	COL 00630
232		$CC1(93) = TST(27) + (DTIP(3) + DTIP(4) + DVL/YC(8) + CC1(92) + DTIP(5))$	COL 00640
233	108	$CC1(93) = CC1(93) + DTIP(2)$	COL 00650
234		$CC1(91) = CC1(93) + CC1(92)$	COL 00660
235		IF (CC1(91)) 112,112,109	COL 00670
236	C		COL 00678
237	C	$*H(TIP) NOT 10.0, CALC AERO 10(Y), 10(X)*$	COL 00680
238	109	$TST(28) = D(2)/TST(1) + CC1(91)/D(1) + TST(2)$	COL 00690
239		$TST(30) = TST(28) + TST(2)$	COL 00700
240		$TST(33) = CC1(94) - T(22)$	COL 00710
241		$TST(34) = B0E - CC1(94)$	COL 00720
242		$TST(29) = TST(28) + TST(33)/TST(1) + (TST(30) - TST(28))$	COL 00730
243		$TST(46) = (TST(18) + YC(8))/D(2)$	COL 00740
244		$TST(47) = (TST(21) + YC(8))/D(2)$	COL 00745
245		$TST(42) = T(22)$	COL 00750
246		$TST(43) = CC1(94)$	COL 00755
247		$TST(48) = CC1(95)$	COL 00760
248		$TST(38) = TST(3) + TST(10)/D(2)$	COL 00770
249		$TST(41) = TST(14) + TST(21)/D(2)$	COL 00780
250	C		COL 00789
251		DO 110 1-1,2	COL 00790
252		$TST(1+30) = TST(1+3)/D(2) + (TST(1+27) + TST(1+28))$	COL 00800
253		$TST(44) = TST(1+28)/TST(1+27)$	COL 00810
254		$TST(45) = TST(1+32)/(D(1) + D(2) + TST(44)/(D(3) + D(3) + TST(44))$	COL 00820
255		$TST(1+34) = TST(1+41) + TST(45)$	COL 00830
256		$TST(1+36) = TST(1+30) + TST(45)/TST(1+32) + (TST(1+39) + TST(1+38))$	COL 00840
257	C		COL 00849
258	C	$*101 PITCH, ROLL AT TIP C.O.*$	COL 00850
259		$TST(50) = TST(48) + TST(1+30)$	COL 00855
260		$CC1(98) = CC1(98) + TST(1+30) + (CC1(95) - TST(1+36)) + 2 + TST(1+30)CDL 00860$	COL 00860
261		$1) + TST(1+45)/D(12) + TST(1+45) + TST(50)$	COL 00870
262		$CC1(98) = CC1(98) + TST(1+30) + (CC1(94) - TST(1+34)) + 2 + TST(1+30)CDL 00880$	COL 00880
263		$1) + TST(1+32)/D(12) + TST(1+32) + TST(50)$	COL 00890
264	C		COL 00891
265	C	$***101 YAW--AERO ONLY***$	COL 00892
266		$CHD(20) = CHD(20) + TST(1+30) + (CC1(95) - TST(1+36)) + 2 + (CC1(94)CDL 00893$	COL 00893
267		$1 - TST(1+34)) + 2 + (TST(1+45) + TST(1+45) + TST(1+32) + TST(1+32))/D(1)CDL 00894$	COL 00894
268		22))	COL 00895
269	C		COL 00899
270	110	CONTINUE	COL 00900
271	C		COL 00910
272	C	$*ROTATE FOR STRUCTURAL 101*$	COL 00920
273	111	$CC1(100) = CC1(98) + COSO(3) + CC1(99) + SINO(3)$	COL 00930
274		$CC1(101) = CC1(99) + COSO(3) + CC1(98) + SINO(3)$	COL 00940
275	C		COL 00950
276	C	$*UNIF. DIST. MISC. HEIGHTS, UNIF OVER BOX PLATFORM**$	COL 00960
277	112	$TCS(248) = DMAT(1)$	COL 00970
278		$TCS(248) = DMAT(1)/BOX$	COL 00975
279		$TCS(250) = TCS(248)/D(17)$	COL 00976
280		$TCS(247) = TCS(248) + CC1(91)$	COL 00977
281	C		COL 00978
282	C	$*PRINT ON IP 13*$	COL 00979
283		IF (IP(13)) 1120,1120,113	

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
284	1120 WRITE(6,900)		
285	WRITE (6,9001)		COL 00981
286	9001 FORMAT (36H0 **TIP DATA. TST AND CC(191-197**)		
287	WRITE (6,903)		
288	DO 9004 NI=91,107,5		
289	K2 = NI * ND(4)		
290	WRITE (6,902)NI,(CC1(11),11-N1,K2,1)		
291	9004 CONTINUE		
292	WRITE (6,905)		
293	DO 9060 NI=1,50,5		
294	K2 = NI * ND(4)		
295	WRITE (6,902)NI,(TST(11),11-N1,K2,1)		
296	9060 CONTINUE		
297	C		COL 00969
298	*LINE DIST. ITEMS 1 AND 2. 8 DATA/ITEM*		COL 00990
299	113 IND = 1		
300	DO 130 M=1,2		COL 01000
301	K = M*ND(8) - ND(8)		COL 01010
302	DO 114 I=1,8		COL 01020
303	L = K+I		COL 01030
304	TOR(1) = DMPT(L+1)		COL 01040
305	114 CONTINUE		COL 01050
306	C		COL 01059
307	*TEST FOR CALC*		COL 01060
308	IF (TOR(1)) 130,130,115		COL 01070
309	115 IND = IND + 1		
310	CC(1N+30) = TOR(1)		COL 01100
311	CC(1N+34) = TOR(2)		COL 01030
312	YCS(247) = YCS(247) + TOR(1)		COL 01055
313	IF (TOR(2) - 0(1)) 116,117,117		COL 01100
314	116 CC(1N+34) = TOR(2)*802		COL 01110
315	117 C(1N+78) = TOR(3)		COL 01120
316	IF (TOR(3)-0(1)) 118,118,119		COL 01130
317	118 CC(1N+38) = TOR(3)*802		COL 01140
318	119 TT(1) = CC(1N+34)		COL 01150
319	C		
320	IF(IND)9510,9510,9515		
321	9510 IF(P(15))9512,9512,9515		
322	9512 WRITE(6,9513)		
323	9513 FORMAT(1H1,57H,52H** CTOT2 (CALLED FROM MISCNT - LOOP 130) - (P(15		
324	*) **)		
325	C		
326	9515 CALL CTOT2		
327	TOR(9) = TOR(4)		COL 01170
328	IF (TOR(4) - 0(1)) 120,121,121		COL 01180
329	120 TOR(9) = TOR(4)*YC(9)		COL 01190
330	121 CC(1N+42) = YC(2) + TOR(9)		COL 01200
331	TT(10) = DNDIN(12)		COL 01201
332	IF (YC(3) - CC(1N+42)) 1210,1212,1214		COL 01202
333	1210 IF (YC(5) - CC(1N+42)) 1211,1213,1215		COL 01203
334	1211 TT(10) = DNDIN(9)/(YC(7) - YC(5))*(YC(7) - CC(1N+42))		COL 01204
335	GO TO 1215		COL 01205
336	1212 TT(10) = DNDIN(10)		COL 01206
337	GO TO 1215		COL 01207
338	1213 TT(10) = DNDIN(9)		COL 01208
339	GO TO 1215		COL 01209
340	1214 TT(10) = DNDIN(11) + (CC(1N+42) - YC(1))/(YC(3) - YC(1))*DNDIN(10)		COL 01210
341	1) - DNDIN(11))		COL 01211
342	1215 TT(10) = TT(10)+YC(30)		COL 01212
343	CC(1N+127) = TT(10)		COL 01213
344	C		COL 01214
345	TT(1) = CC(1N+30)		COL 01219
346	CALL CTOT2		COL 01220
347	TOR(9) = TOR(9)		COL 01230
348	IF (TOR(9) - 0(1))122,123,123		COL 01240
349	122 TOR(9) = TOR(9)*YC(9)		COL 01250
350	123 CC(1N+46) = YC(2) + TOR(9)		COL 01260
351	TT(9) = DNDIN(12)		COL 01261
352	IF (YC(7) - CC(1N+46)) 1230,1232,1234		COL 01262
353	1230 IF (YC(5) - CC(1N+46)) 1231,1233,1235		COL 01263
354	1231 TT(10) = DNDIN(9)/(YC(7) - YC(5))*(YC(7) - CC(1N+46))		COL 01264

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
355	00 TO 1235		COL 01265
356	1232 TT(10) = D(0)IN(10)		COL 01266
357	00 TO 1235		COL 01267
358	1233 TT(10) = D(0)IN(9)		COL 01268
359	00 TO 1235		COL 01269
360	1234 TT(10) = D(0)IN(11) + (CC(1)N+46) - VC(11)/(VC(13) - VC(11))*(D(0)IN+10C(0)1270		COL 01270
361	11 = D(0)IN(11)		COL 01271
362	1235 TT(10) = TT(10)+VC(130)		COL 01272
363	CC(1)N+131) = TT(10)		COL 01273
364	C		COL 01274
365	C		COL 01276
366	C	*CALC EQUATION OF LINE*	COL 01280
367	TOR(N+9) = CC(1)N+30) - CC(1)N+34)		COL 01290
368	TOR(N+11) = CC(1)N+46) - CC(1)N+42)		COL 01300
369	CC(1)N+74) = TOR(N+11)/TOR(N+9)		COL 01310
370	CC(1)N+70) = CC(1)N+42) - CC(1)N+34)*CC(1)N+74)		COL 01320
371	CC(1)N+135) = (CC(1)N+131) - CC(1)N+127)/TOR(N+9)		COL 01325
372	CC(1)N+130) = CC(1)N+127) - CC(1)N+34)*CC(1)N+135)		COL 01326
373	TOR(130) = CC(1)N+34)*TAND(13) + C(0)13) - CC(1)N+42)		COL 01330
374	CC(1)N+50) = CC(1)N+34)/COS(13) - SIND(13)*TOR(130)		COL 01331
375	CC(1)N+80) = TOR(130)*COS(13)		COL 01332
376	TOR(130) = CC(1)N+30)*TAND(13) + C(0)13) - CC(1)N+46)		COL 01335
377	CC(1)N+54) = CC(1)N+30)*COS(13) - SIND(13)*TOR(130)		COL 01336
378	CC(1)N+82) = (TOR(130)*COS(13) - CC(1)N+80))/(CC(1)N+54) - CC(1)N+50))		COL 01337
379	CC(1)N+86) = CC(1)N+80) - CC(1)N+50)*CC(1)N+82)		COL 01338
380	TOR(N+13) = TOR(17)		COL 01340
381	C		COL 01349
382	C	*MEIC EQUATION REF TO AERO Y*	COL 01350
383	TOR(N+17) = CC(1)N+30) - CC(1)N+34)		COL 01360
384	TOR(N+19) = D(2)/TOR(N+17)*CC(1)N+30)/(D(1) + TOR(N+13))		COL 01370
385	TOR(N+23) = TOR(N+19)+TOR(N+13)		COL 01380
386	TOR(130) = (CC(1)N+30) - CC(1)N+34))/(CC(1)N+54) - CC(1)N+50))		COL 01385
387	CC(1)N+50) = (TOR(N+23) - TOR(N+19))/TOR(N+17)		COL 01390
388	CC(1)N+88) = TOR(130)+TOR(130)*CC(1)N+50)		COL 01395
389	CC(1)N+82) = TOR(N+19) - CC(1)N+34)*CC(1)N+50)		COL 01400
390	CC(1)N+70) = TOR(130)+TOR(N+19) - CC(1)N+50)*CC(1)N+88)		COL 01405
391	CC(1)N+143) = (CC(1)N+131) - CC(1)N+127)/(CC(1)N+54) - CC(1)N+50))		COL 01406
392	CC(1)N+147) = CC(1)N+127) - CC(1)N+50)*CC(1)N+143)		COL 01407
393	C		COL 01410
394	C	*TEST FOR SPANWISE DIST. BK. Y(MID)*	COL 01420
395	IF (TOR(01) 130,130,124		COL 01430
396	124 CC(1)N+36) = TOR(01)		COL 01440
397	IF (TOR(01) - D(1)) 125,126,126		COL 01450
398	125 CC(1)N+36) = TOR(01)*802		COL 01460
399	C		COL 01469
400	C	*Y(MID) MUST BE BETWEEN Y(10) AND Y(08)	COL 01470
401	C	*TEST. IF NOT, USE MID-POINT*	COL 01480
402	100 IF (CC(1)N+36) - CC(1)N+34)) 127,127,128		COL 01490
403	127 CC(1)N+36) = (CC(1)N+34) + CC(1)N+30)/D(2)		COL 01500
404	00 TO 129		COL 01510
405	128 IF (CC(1)N+36) - CC(1)N+30)) 129,127,127		COL 01520
406	129 CC(1)N+44) = CC(1)N+30)+CC(1)N+74) + CC(1)N+70)		COL 01525
407	TOR(130) = CC(1)N+36)*TAND(13) + C(0)13) - CC(1)N+44)		COL 01530
408	CC(1)N+52) = CC(1)N+36)/COS(13) - SIND(13)*TOR(130)		COL 01531
409	CC(1)N+86) = CC(1)N+54)		COL 01532
410	CC(1)N+54) = CC(1)N+52)		COL 01533
411	CC(1)N+40) = CC(1)N+46)		COL 01540
412	CC(1)N+46) = CC(1)N+44)		COL 01550
413	CC(1)N+40) = CC(1)N+30)		COL 01560
414	CC(1)N+36) = CC(1)N+30)		COL 01570
415	TT(11) = CC(1)N+36)		COL 01571
416	TT(12) = C(13)		COL 01572
417	CALL CTOT2		COL 01573
418	TT(10) = T(0)IN(12)		COL 01574
419	IF (VC(13) - CC(1)N+44)) 1290,1292,1294		COL 01575
420	1290 IF (VC(13) - CC(1)N+44)) 1291,1293,1295		COL 01576
421	1291 TT(10) = D(0)IN(0)/(VC(7) - VC(5))*(VC(7) - CC(1)N+44))		COL 01577
422	00 TO 1295		COL 01578
423	1292 TT(10) = D(0)IN(10)		COL 01579
424	00 TO 1295		COL 01580
425	1293 TT(10) = D(0)IN(0)		COL 01581

CARD NO	CONTENTS	
426	GO TO 1295	COL 01582
427	1294 TT(10) = DNDIN(11) + (CC(1N+4) - VC(11))/(VC(1) - VC(11)*DNDIN(10))	COL 01583
428	11 = DNDIN(11)	COL 01584
429	1295 TT(10) = TT(10) + VC(30)	COL 01585
430	CC(1N+129) = TT(10)	COL 01586
431	CC(1N+133) = CC(1N+131)	COL 01587
432	CC(1N+131) = CC(1N+129)	COL 01588
433	C	COL 01589
434	TOR(1N+15) = TOR(1)	COL 01590
435	TOR(1N+25) = CC(1N+36) - CC(1N+34)	COL 01595
436	TOR(1N+27) = CC(1N+40) - CC(1N+38)	COL 01600
437	TOR(1N+19) = D(2)*CC(1N+30)/(D(1)+TOR(1N+13)+TOR(1N+25) + TOR(1N+13))	COL 01610
438	1+TOR(1N+27)*D(1) + TOR(1N+15)	COL 01620
439	TOR(1N+21) = TOR(1N+19)*TOR(1N+13)	COL 01630
440	TOR(1N+23) = TOR(1N+21)*TOR(1N+15)	COL 01640
441	CC(1N+20) = TOR(1N+25)/D(2)*(TOR(1N+19) + TOR(1N+21))	COL 01650
442	CC(1N+32) = TOR(1N+27)/D(2)*(TOR(1N+21) + TOR(1N+23))	COL 01660
443	CC(1N+50) = (TOR(1N+21) - TOR(1N+19))/TOR(1N+25)	COL 01670
444	TOR(30) = TOR(1N+25)/(CC(1N+54) - CC(1N+50))	COL 01675
445	CC(1N+66) = TOR(30)*TOR(30)*CC(1N+58)	COL 01676
446	CC(1N+62) = TOR(1N+19) - CC(1N+34)*CC(1N+58)	COL 01680
447	CC(1N+70) = TOR(30)*TOR(1N+19) - CC(1N+50)*CC(1N+66)	COL 01685
448	TOR(30) = TOR(1N+27)/(CC(1N+56) - CC(1N+52))	COL 01686
449	CC(1N+60) = (TOR(1N+23) - TOR(1N+21))/TOR(1N+27)	COL 01690
450	CC(1N+68) = TOR(30)*TOR(30)*CC(1N+60)	COL 01695
451	CC(1N+84) = TOR(1N+21) - CC(1N+36)*CC(1N+60)	COL 01700
452	CC(1N+78) = TOR(30)*TOR(1N+21) - CC(1N+52)*CC(1N+68)	COL 01710
453	CC(1N+76) = CC(1N+74)	COL 01720
454	CC(1N+80) = CC(1N+78)	COL 01730
455	CC(1N+84) = CC(1N+82)	COL 01740
456	CC(1N+88) = CC(1N+86)	COL 01750
457	CC(1N+135) = (CC(1N+129) - CC(1N+127))/TOR(1N+25)	COL 01760
458	CC(1N+137) = (CC(1N+133) - CC(1N+131))/TOR(1N+27)	COL 01761
459	CC(1N+143) = COSD(3)*CC(1N+135)	COL 01762
460	CC(1N+145) = COSD(3)*CC(1N+137)	COL 01763
461	CC(1N+138) = CC(1N+127) - CC(1N+135)*CC(1N+34)	COL 01764
462	CC(1N+141) = CC(1N+131) - CC(1N+137)*CC(1N+36)	COL 01765
463	CC(1N+147) = CC(1N+127) - CC(1N+143)*CC(1N+50)	COL 01766
464	CC(1N+149) = CC(1N+131) - CC(1N+145)*CC(1N+52)	COL 01767
465	C	COL 01768
466	C	COL 01771
467	C PRINT ON IP 13	COL 01772
468	IF (IP(13)) 1299, 1299, 130	
469	1299 WRITE(6,900)	
470	WRITE(6,9002)	
471	9002 FORMAT (3H40 *DIST LINE DATA. TOR AND CC)	
472	WRITE(6,903)	
473	DO 9005 NI=31,152,5	
474	K2 = NI + ND(4)	
475	WRITE(6,902) NI, (CC(11), 11=NI, K2, 1)	
476	9005 CONTINUE	
477	WRITE(6,906)	
478	DO 9008 NI=1,100,5	
479	K2 = NI + ND(4)	
480	WRITE(6,902) NI, (TOR(11), 11=NI, K2, 1)	
481	9008 CONTINUE	
482	C	
483	C LOOP FOR NEXT LINE	COL 01780
484	130 CONTINUE	COL 01770
485	C	COL 01778
486	C SETUP CALC STATUS ID FOR AERO AND STRUCT, 4 EACH	COL 01780
487	DO 131 I=1,4	COL 01780
488	CC(11+131) = CC(11+30)	COL 01781
489	CC(11+117) = CC(11+38)	COL 01782
490	131 CONTINUE	COL 01795
491	C	COL 01788
492	C ***CONC. POINT ITEMS***	COL 01800
493	IND = -1	
494	DO 133 NI=1,6	COL 01810
495	K = NI*ND(3)	COL 01820
496	CC(1N) = DNDT(K+15)	COL 01830

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
487	CC1IN+101) = CC1IN)		COL 01035
488	CC1IN+107) = CC1IN)		COL 01036
489	IF (CC1IN+139,139,139)		COL 01040
500	134 IND = IND + 1		
501	CC1IN+8) = DMAT(K+16)		
502	TCS1247) = TCS1247) + CC1IN)		COL 01055
503	IF (CC1IN+8) - D(11) 135,135,135		COL 01060
504	135 CC1IN+8) = CC1IN+8)*BQ2		COL 01070
505	138 TT(1) = CC1IN+8)		COL 01080
506	C		
507	IF(IND)5521,5521,5525		
508	5521 IF(1P(15))5522,5522,5525		
509	5522 WRITE(6,5523)		
510	5523 FORMAT(1X,57X,52H** CTOT2 (CALLED FROM MISCHT - LOOP 139) - 1P(15		
511	*) **)		
512	C		
513	5525 CALL CTOT2		
514	CC1IN+12) = DMAT(K+17)		COL 01900
515	IF (ABS(CC1IN+12))- D(11)137,138,138		COL 01910
516	137 CC1IN+12) = YC(9)*CC1IN+12)		COL 01920
517	138 CC1IN+12) = YC(2) + CC1IN+12)		COL 01930
518	TOR(30) = CC1IN+8)*TAND(3) + CCLD(3) - CC1IN+12)		COL 01940
519	CC1IN+24) = COSO(3)*TOR(30)		COL 01950
520	CC1IN+10) = CC1IN+8)/COSO(3) - TOR(30)*SIND(3)		COL 01960
521	C *CALC (Y10),X10) DEPTH TERM= K*D(11)*D(11)*		COL 01961
522	C		COL 01960
523	C *D(1) = F(DMAX,DX/C)		COL 01962
524	TT(10) = DKDIN(12)		COL 01963
525	IF (YC(3) - CC1IN+12)) 1380,1382,1384		COL 01964
526	1380 IF (YC(5) - CC1IN+12)) 1383,1381,1385		COL 01965
527	1381 TT(10) = DKDIN(9)		COL 01966
528	GO TO 1385		COL 01967
529	1382 TT(10) = DKDIN(10)		COL 01968
530	GO TO 1385		COL 01969
531	1383 TT(10) = DKDIN(9)/(YC(7) - YC(5))/(YC(7) - CC1IN+12))		COL 01970
532	GO TO 1385		COL 01971
533	1384 TT(10) = DKDIN(11) + (CC1IN+12) - YC(11)/(YC(3) - YC(11))*DKDIN(10)COL 01972		
534	1) - DKDIN(11))		COL 01973
535	1385 TT(10) = TT(10)*YC(30)		COL 01974
536	CC1IN+12) = CC1IN+DKDIN(8)*TT(10)*TT(10)		COL 01975
537	139 CONTINUE		COL 01980
538	C		COL 01988
539	C *PRINT ON 1P 13*		COL 01989
540	IF(1P(13))140,140,150		
541	140 WRITE(6,900)		
542	WRITE(6,9003)		
543	9003 FORMAT (3H40 **CONC ITEM DATA: TOR AND CC1)		
544	WRITE (6,903)		
545	DO 9006 NI=1,30,5		
546	K2 = NI + ND(4)		
547	WRITE (6,902)NI,(CC1(11),11+NI,K2,1)		
548	9006 CONTINUE		
549	WRITE (6,906)		
550	DO 9009 NI=1,100,5		
551	K2 = NI + ND(4)		
552	WRITE (6,902)NI,(TOR(11),11+NI,K2,1)		
553	9009 CONTINUE		
554	C		COL 01999
555	C *INTEGRATE MISC. MTS.*		COL 02000
556	150 CALL MISCHT		COL 02010
557	C		COL 02020
558	C *DO EXTERNAL CONC. MT. ITEMS*		COL 02030
559	CALL COL		COL 02040
560	C		COL 02050
561	C		COL 02060
562	C		COL 15000
563	C *SAVE INTEGRATION RESULTS IN CH1(1-150)*		COL 15010
564	DO 561 I=1,110		COL 15020
565	CH1(I+30) = TCS(I+33)		COL 15030
566	561 CONTINUE		COL 15040
567	DO 562 I=1,11		COL 15050

08/10/74	INPUT LISTING	AUTO LOH CHAFF SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
968	CH(11+1) = TCS(1)		COL 15068
969	CH(11+13) = TCS(1+11)		COL 15070
970	CH(11+25) = TCS(1+22)		COL 15080
971	962 CONTINUE		COL 15090
972	CH(11+7) = CC(1)		COL 15100
973	CH(11+9) = TCS(2+8)		COL 15110
974	CH(11+9) = CC(131) + CC(132) + CC(133) + CC(134)		COL 15120
975	CH(11+50) = BC(3)		COL 15130
976	DO 503 I=1,6		COL 15140
977	CH(11+50) = CH(11+50) + CC(1)		COL 15150
978	963 CONTINUE		COL 15160
979	C		COL 15160
980	C *COL DATA*		COL 15170
981	DO 504 I=1,7		COL 15180
982	TWD(1+367) = TCS(1+227)		COL 15190
983	904 CONTINUE		COL 15200
984	DO 505 I=1,84		COL 15210
985	TWMT(1+105) = TCS(1+143)		COL 15220
986	905 CONTINUE		COL 15230
987	C		COL 15230
988	C *MOVE MISC AND SUM COL WMT*		COL 15240
989	DO 506 I=1,88		COL 15250
990	TWMT(1+88) = CC(1+201)		COL 15260
991	906 CONTINUE		COL 15270
992	DO 507 I=1,33		COL 15280
993	TWD(1+233) = CC(1+180)		COL 15290
994	TWD(1+200) = TCS(220) + CC(1+201) + TCS(220) + CC(1+234) + CC(1+267)		COL 15300
995	907 CONTINUE		COL 15310
996	C		COL 15320
997	C *PRINT SUMMARY ON IP 14*		COL 15330
998	IF(IP(14)) 508,508,998		
999	508 WRITE (6,508)		COL 15350
1000	509 FORMAT (4H1 ***MISC SUBR. FINAL CH11 AND TWMT ARRAYS***,		COL 15360
1001	I 4X,2H1*** MISCNT = (P(14) **/B4) CH11)		
1002	C		COL 15380
1003	C		
1004	DO 9103 N=1,150,5		
1005	K = N-ND(4)		
1006	WRITE (6,902)N,(CH11(I)) I=N,K,1)		
1007	9103 CONTINUE		
1008	C		
1009	510 FORMAT (8H1 TWMT)		COL 15670
1010	WRITE (6,510)		
1011	DO 9104 N=1,250,5		
1012	K = N-ND(4)		
1013	WRITE (6,902)N,(TWMT(I)) I=N,K,1)		
1014	9104 CONTINUE		
1015	C		
1016	C		COL 15380
1017	C		COL 99900
1018	C *EXIT**		COL 99901
1019	908 RETURN		COL 99902
1020	END		COL 99900
1021	C*****		
1022	C		
1023	C *****SUBROUTINE MISCIT*****		
1024	C ***MISC CONTENT WEIGHT INTEGRATION***		
1025	C		
1026	C*****		
1027	C		
1028	SUBROUTINE MISCIT		MIS10010
1029	C		COL 99920
1030	C ***CONCENTRATED BW AND MISC DIST. WT. LOAD AND INERTIA.***		COL 99930
1031	C		COL 99940
1032	C **REVISION-01-15-73-NEW FORMAT.		COL 99950
1033	C *ORIGINAL--01-17-68.		COL 99960
1034	C		COL 99970
1035	COMMON T		COL 99980
1036	COMMON /IPRINT/ IP(80)		COL 99981
1037	C		COL 99990
1038	DIMENSION T(6220),D(2000),CD(2000),ND(100),BC(100),		COL 99100

CARD NO	****	CONTENTS	****
030		ITG(100),TAN(100),COS(1250),CIN(1150),TST(10),TT(20),	COL 00101
040		ZYC(150),TAN(100),COS(100),SIN(100),COS(100),TGR(100),TBM(10),TGA(135),	COL 00102
041		3180(11),	COL 00103
042		SCIOY(150),	COL 00105
043		SDPM(135),DCOL(100),DTIP(15),	COL 00109
044	C	ENDIN(15),CND(50)	COL 00110
045		EQU(100),T(200),C(100),T(121),IND(1),T(121),	COL 00120
046		ITDC(1),D(140),T(100),T(100),T(130),T(130),T(170),T(170),	COL 00121
047		Z(100),T(200),T(100),T(100),C(100),C(100),T(100),C(100),	COL 00122
048		31CH(1),C(125),TGR(1),T(175),T(175),T(175),T(175),T(175),	COL 00123
049		41TAND(1),T(122),C(100),T(131),S(100),T(140),T(140),	COL 00124
050		51COSO(1),T(140),C(100),T(152),T(152),T(152),T(152),T(152),	COL 00125
051		61CTIP(1),T(175),T(175),T(175),T(175),T(175),T(175),T(175),	COL 00126
052		71DTIP(1),D(195),T(175),T(175),T(175),T(175),T(175),T(175),	COL 00127
053		81ENDIN(1),D(197),T(175),T(175),T(175),T(175),T(175),T(175),	COL 00128
054		91,ND(20),T(175),T(175),T(175),T(175),T(175),T(175),T(175),	COL 00129
055		A,ITD(1),T(175),T(175),T(175),T(175),T(175),T(175),T(175),	COL 00130
056		B,ITP(1),T(175),T(175),T(175),T(175),T(175),T(175),T(175),	COL 00131
057		C,ICIOY(1),T(150),	COL 00132
058	C		COL 00140
059	C	***INTEGRATION OF UNIF. AND LINE DIST. AND POINT ITEMS.	COL 00190
060	C	*CALC M,Y,X,V,M,T FOR MT ANALYSIS.	COL 02000
061	C	*CALC M,Y,X,V,M,T STRIP DATA. STRUCT=FLUTTER. AERO-LOADS	COL 02010
062	C	**10 PANELS, 11 STATIONS. UD TIP TO ROOT.	COL 02020
063	C	*SETUP CONTANTS. MOVE 1 DATA TO 1-1 A. END OF LOOP.*	COL 02030
064	C	**INCLUDE TIP DATA AT STATION 11, K=11 FOR MT/WF.**	COL 02040
065	C	*FOR LOADS CHECK FOR CP(1-10)*	COL 02041
066	C		COL 02042
067	C	***IP2-OUTPUT TYPE 10 FOR PRINT SUBR PRTH(1-5)***	COL 02043
068	C	**INITIAL MISCIT DATA ON IP 13. SET IP2=2***	COL 02044
069		130 IF (IP(13)) 131,140	
070		131 IP2 = ND(2)	COL 02046
071		CALL PRTH	COL 02048
072	C		COL 02049
073		140 TOR(25) = TAND(3) - TANS	COL 02050
074		TOR(26) = CDO(3) - CCL5	COL 02050
075		TOR(27) = COTEA - TANS	COL 02070
076		DO 141 I=1,2	COL 02080
077		TOR(1+20) = TG(1)	COL 02080
078		TOR(1+33) = TGA(1)	COL 02100
079	141	CONTINUE	COL 02105
080		TOR(175) = DC(3)	COL 02106
081		TOR(174) = DC(3)	COL 02107
082		TOR(100) = DC(3)	COL 02110
083	C		COL 02111
084	C	SETUP ORD DIST. LINE DATA. Z AND Y	COL 02111
085		DO 1410 I=1,4	COL 02112
086		TOR(1+75) = CC(1+24)*CC(1+66) + CC(1+70)	COL 02113
087		TOR(1+76) = CC(1+24)	COL 02114
088		TOR(1+83) = CC(1+24)*CC(1+82) + CC(1+86)	COL 02115
089		TOR(1+88) = CC(1+30)*CC(1+50) + CC(1+82)	COL 02116
090		TOR(1+92) = CC(1+30)	COL 02117
091		TOR(1+96) = CC(1+30)*CC(1+74) + CC(1+78)	COL 02118
092		1410 CONTINUE	COL 02119
093	C		COL 02120
094	C		COL 02120
095	C	***DO 11 STRUCTURAL AND 10 AERO PANELS***	COL 02120
096		DO 204 N=1,11	COL 02120
097		K = ND(12) - N	COL 02130
098		TOR(120) = TG(K)	COL 02140
099		TOR(132) = TGA(K)	COL 02150
100		TOR(129) = TG(K+45)	COL 02160
101		TOR(133) = TGA(K+22)	COL 02170
102	C		COL 02171
103	C	*STRUCT CHORD DATA AT STRUCT PT(K)*	COL 02180
104		TT(1) = TG(K+11)	COL 02180
105		TT(2) = TG(K+22)	COL 02200
106	C		
107		IF (IP(15)) 9502,9502,9505	
108		9502 WRITE(6,9503)	
109		9503 FORMAT(1H1,6BX,41H** CLOTZ (CALLED FROM MISCIT) - IP(15) **)	

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINEAGE MODULE -
CARD NO	CONTENTS		
710	C		
711	9905 CALL CTOT2		
712	DO 142 I=1,3		COL 02220
713	TOR(140) = VC(110)		COL 02230
714	TOR(145) = VC(112)		COL 02240
715	142 CONTINUE		COL 02250
716	CHD(1) = TBO(K)		COL 02260
717	TOR(144) = VC(127)		COL 02270
718	TOR(145) = VC(127)*TCS(250)		COL 02280
719	C		COL 02290
720	C	*AERO CHORD DATA AT FLEX. LOS PT(K)	COL 02290
721	TT(1) = TOR(32)		COL 02300
722	TT(2) = OC(3)		COL 02310
723	CALL CTOT2		COL 02320
724	CHD(1) = TGA(K*124)		COL 02330
725	TOR(135) = VC(3)		COL 02340
726	TOR(137) = VC(4)		COL 02350
727	TOR(138) = VC(5)		COL 02360
728	TOR(139) = VC(10)		COL 02370
729	TOR(140) = VC(10)*TCS(250)		COL 02380
730	C		COL 02390
731	C	*TEST FOR TIP*	COL 02400
732	C	**DEL(MIN)*MTIP) FOR MT. ANALYSIS INTEGRATION**	COL 02401
733	IF IND(1) - K) 143,145,144		COL 02405
734	143 TCS(K) = DELMD*CC(10)		COL 02410
735	C		COL 02411
736	C	*SAME DELTA MT DUE TO DELMD IN TOR(24) FOR MT CALIB.*	COL 02412
737	C	*SAME DINTI= M(0) - DELMD*(10)*	COL 02413
738	TOR(24) = CC(10) - TCS(K)		COL 02420
739	TCS(K*33) = CC(10)		COL 02430
740	TCS(K*87) = CC(10)		COL 02440
741	TOR(1) = CC(100) - TG(11)		COL 02450
742	TOR(3) = CC(104) - TGA(32)		COL 02460
743	TCS(22) = CC(10)*TOR(1)		COL 02470
744	TCS(105) = TCS(22)		COL 02480
745	TCS(106) = TCS(22)*TOR(1) + CC(101)		COL 02490
746	TCS(33) = CC(101)*CC(107)		COL 02500
747	TCS(108) = TCS(33)		COL 02510
748	TCS(77) = TCS(33)*CC(107) + CC(1100)		COL 02520
749	TOR(14) = TGA(42) - CC(105)		COL 02530
750	TCS(109) = CC(101)*TOR(3)		COL 02540
751	TCS(120) = CC(101)*TOR(14)		COL 02550
752	TCS(131) = TCS(120)*TOR(14) + CC(100)		COL 02560
753	TCS(142) = TCS(109)*TOR(3) + CC(100)		COL 02570
754	CHD(20) = CHD(20) + TCS(120)*TOR(14) + TCS(109)*TOR(3)		COL 02571
755	C		COL 02578
756	C	**SETUP CONTROL STATIONS FOR AERO. V(11)*VS(11)***	COL 02579
757	TOR(32) = TG(22)		COL 02580
758	TT(1) = TG(22)		COL 02590
759	TT(2) = OC(3)		COL 02595
760	CALL CTOT2		COL 02598
761	CHD(1) = TBO(11)		COL 02599
762	TOR(135) = VC(3)		COL 02600
763	TOR(137) = VC(4)		COL 02605
764	TOR(138) = VC(5)		COL 02610
765	TOR(139) = VC(10)		COL 02611
766	TOR(140) = VC(10)*TCS(250)		COL 02612
767	GO TO 150		COL 02615
768	C		COL 02619
769	C		COL 02620
770	C	*10 STRUCTURAL PANELS AND 11 CG STATIONS**	COL 02621
771	C	*10 AERO PANELS AND 10 CG STATIONS**	COL 02622
772	C	*DIST. HEIGHT ANALYSIS. TEST FOR CALC.**	COL 02630
773	144 IF (TCS(250)) 150,150,145		COL 02640
774	145 TT(1) = TGA(57)		COL 02650
775	TT(2) = TGA(60)		COL 02655
776	CALL CTOT2		COL 02660
777	DO 1450 I=1,3		COL 02670
778	TOR(143) = VC(110)		COL 02680
779	TOR(148) = VC(112)		COL 02690
780	1450 CONTINUE		COL 02700

CARD NO	CONTENTS	
701	TOR(57) = VC(27)	COL 02710
702	TOR(58) = VC(27)*TCS(250)	COL 02720
703	CHD(2) = CHD(1) + CHD(3) - CHD(1) / (TOR(30) - TOR(20)) * (TOR(20) - TOR(20))	COL 02730
704	TT(1) = TGA(K+22)	COL 02740
705	TT(2) = DC(3)	COL 02750
706	CALL CTOT2	COL 02760
707	TOR(48) = VC(3)	COL 02770
708	TOR(50) = VC(4)	COL 02780
709	TOR(51) = VC(5)	COL 02790
710	TOR(52) = VC(10)	COL 02800
711	TOR(53) = VC(10)*TCS(250)	COL 02810
712	CHD(5) = CHD(4) + CHD(6) - CHD(4) / (TOR(34) - TOR(32)) * (TOR(33) - TOR(32))	COL 02820
713	C	COL 02830
714	C **STRUCT, AERO 10.00 IN LOOP**	COL 02840
715	DO 140 I=1,2	COL 02850
716	M = I+3	COL 02860
717	L = K + 1 - MD(1)	COL 02870
718	C	COL 02875
719	C **AERO 10.00 SECT DATA FOR PANEL (K)**	COL 02880
800	TOR(113) = TOR(1132) - TOR(1131)	COL 02890
801	TOR(117) = TOR(113) * (TOR(M+27) - TOR(M+40)) / D(2)	COL 02900
802	TOR(118) = TOR(M+40) / TOR(M+27)	COL 02910
803	TOR(119) = TOR(113) * D(1) + D(2) * TOR(118) / D(3) + D(3) * TOR(118)	COL 02920
804	TOR(121) = TOR(113) * TOR(119)	COL 02930
805	TOR(111) = TOR(112) * TAMS + CCL5	COL 02940
806	TOR(111) = TGA(K+32) - TOR(111)	COL 02950
807	TOR(119) = TOR(112) - TOR(33)	COL 02960
808	TOR(21) = (TOR(M+26) + TOR(M+30)) / D(2)	COL 02970
809	CHD(7) = (CHD(113) + CHD(114)) / D(2)	COL 02980
810	CHD(8) = CHD(7) * CHD(116) * CHD(7) * TOR(117)	COL 02990
811	TST(1124) = TOR(117) * TOR(119)	COL 03000
812	TST(1126) = TOR(117) * TOR(111)	COL 03010
813	TOR(1116) = TOR(117) * TOR(21) / D(12) * TOR(21) + CHD(8)	COL 03020
814	TOR(1118) = TOR(117) * TOR(113) / D(12) * TOR(113) + CHD(8)	COL 03030
815	C	COL 03031
816	C **SUM AERO DATA ON INDEX K**	COL 03032
817	TCS(K+88) = TCS(K+88) + TOR(117)	COL 03033
818	TCS(K+99) = TCS(K+99) + TST(1124)	COL 03034
819	TCS(K+110) = TCS(K+110) + TST(1126)	COL 03035
820	TCS(K+121) = TCS(K+121) + TOR(1116) + TST(1126) * TOR(111)	COL 03036
821	TCS(K+132) = TCS(K+132) + TOR(1118) + TST(1124) * TOR(119)	COL 03037
822	CHD(K+20) = CHD(K+20) + TST(1126) * TOR(111) + TST(1124) * TOR(119)	COL 03038
823	I TOR(117) / D(12) * TOR(21) * TOR(21) + TOR(113) * TOR(113)	COL 03039
824	C	COL 03039
825	C **INBD/ORD STRUCT PANEL DATA**	COL 03040
826	TST(1110) = TOR(1120) - TOR(1127)	COL 03050
827	TST(11) = TST(1110) * (TOR(M+32) - TOR(M+45)) / D(2)	COL 03060
828	TST(116) = TOR(M+45) / TOR(M+32)	COL 03070
829	TST(112) = TST(1110) * D(1) + D(2) * TST(116) / D(3) + D(3) * TST(116)	COL 03080
830	C	COL 03080
831	TST(1112) = TST(112) + TOR(1127)	COL 03100
832	TST(115) = (TOR(M+31) + TOR(M+44)) / D(2)	COL 03110
833	CHD(9) = (CHD(11) + CHD(111)) / D(2)	COL 03120
834	CHD(10) = CHD(9) * CHD(116) * CHD(9) * TST(11)	COL 03130
835	TST(1116) = TST(111) * TST(115) / D(12) * TST(115) + CHD(10)	COL 03140
836	TST(1118) = TST(111) * TST(1110) / D(12) * TST(1110) + CHD(10)	COL 03150
837	C	COL 03150
838	C **TEST FOR 8 EA.	COL 03160
839	IF (TAND(3)) 146, 147, 148	COL 03170
840	146 TST(117) = COSO(3) * TST(1112)	COL 03180
841	TST(118) = TAND(3) * TST(117) + CCL0(3)	COL 03190
842	TST(119) = TST(118) - COTEA * TST(117)	COL 03200
843	TST(120) = (CCL5 - TST(118)) / TOR(27)	COL 03210
844	TST(1141) = (TST(120) - TST(117)) / SIND(3)	COL 03220
845	GO TO 148	COL 03230
846	C	COL 03230
847	C **TAMEA) = 0**	COL 03240
848	147 TST(1144) = CCL0(3) - TST(1112) * TAMS - CCL5	COL 03250
849	148 TST(1121) = TST(1112) - TOL(1)	COL 03260
850	TST(1120) = TST(111) * TST(1121)	COL 03270
851	TST(1122) = TST(111) * TST(1141)	COL 03280

CARD NO	INPUT LISTING	CONTENTS	****
052	C		COL 03200
053	C	*BLM STRUCT STRIPS ON INDEX L FOR 180/OBD*	COL 03200
054		TCS(L+33) = TCS(L+33) + TST(1)	COL 03300
055		TCS(L+44) = TCS(L+44) + TST(1+20)	COL 03310
056		TCS(L+55) = TCS(L+55) + TST(1+22)	COL 03320
057		TCS(L+66) = TCS(L+66) + TST(1+22)*TST(1+4) + TCS(1+6)	COL 03330
058		TCS(L+77) = TCS(L+77) + TST(1+20)*TST(1+2) + TCS(1+8)	COL 03340
059		TCS(K) = TCS(K) + TST(1)	COL 03351
060		TCS(K+11) = TCS(K+11) + TST(1)*(TST(1+12) - T0(K))	COL 03352
061		TCS(K+22) = TCS(K+22) + TST(1+22)	COL 03353
062	140	CONTINUE	COL 03350
063	C		COL 03360
064	C		COL 03361
065	C	**PRINT UNIF DIST HTS INTEGRATION STATION DETAILS--IP 13*	COL 03362
066	C	*SET IP2 = 3*	COL 03363
067		IF (IP(1:3)) 140,140,150	
068	140	IP2 = MD(3)	COL 03366
069		CALL PRTH	COL 03367
070	C		COL 03368
071	C	*CONC. POINT ITEMS. 161**	COL 03370
072	C	*CHECK ALL 11 STATION FOR HT/STRUCT SYS. 18 FOR LOADS*	COL 03380
073	C	*18=8 FOR MD CALC DUE TO HT=8 OR HT OBD OF Y(OBD) OF PNL	COL 03390
074	C		COL 03400
075	150	DO 161 L=1,8	COL 03410
076		IF (CC(L+187)) 156,156,152	COL 03420
077	C		COL 03420
078	C	*AERO. ALL POINTS OBD OF Y(1-1) ALREADY ZERO. *CHECK 180*	COL 03430
079	C	*SKIP LOAD SET ON K=11*	COL 03440
080	152	IF (K - MD(18)) 153,153,156	COL 03450
081	153	IF (TOR(32) - CC(L+6)) 154,154,156	COL 03460
082	154	TST(30) = CC(L+6) - TOR(33)	COL 03470
083		CC(L+187) = DC(13)	COL 03480
084		TST(31) = T0A(K+32) - CC(L+12)	COL 03490
085	C		COL 03500
086	C		COL 03510
087	C		COL 03520
088	C	*BLM AERO ON INDEX=K*	COL 03530
089	155	TCS(K+88) = TCS(K+88) + CC(1)	COL 03540
090		TST(32) = CC(1)*TST(30)	COL 03550
091		TCS(K+98) = TCS(K+98) + TST(32)	COL 03560
092		TST(33) = CC(1)*TST(31)	COL 03570
093		TCS(K+110) = TCS(K+110) + TST(33)	COL 03580
094		TCS(K+121) = TCS(K+121) + TST(33)*TST(31) + CC(1)*121	COL 03590
095		TCS(K+132) = TCS(K+132) + TST(32)*TST(30) + CC(1)*121	COL 03600
096		CHD(1+20) = CHD(K+20) + CC(1)/D(12) + TST(33)*TST(31) + TST(32)*TCS(360)	COL 03601
097		TST(30)	COL 03602
098	C		COL 03610
099	C	*STRUCT*	COL 03620
100	156	IF (CC(L+181)) 161,161,157	COL 03630
101	157	J = MD(1)	COL 03635
102		IF (CC(L+18) - TOR(20)) 158,158,1581	COL 03640
103	158	IF (K - MD(1)) 1580,1580,161	COL 03641
104	1580	J = MD(2)	COL 03642
105		TOR(24) = TOR(24) + CC(1)	COL 03643
106	1581	CC(L+181) = DC(13)	COL 03650
107		I = K	COL 03660
108		IF (TOR(20) - CC(L+18)) 159,159,160	COL 03670
109	159	IF (K - MD(18)) 1580,1580,160	COL 03675
110	1580	I = K + MD(1)	COL 03680
111	160	TST(30) = CC(L+18) - T0(1)	COL 03690
112		TST(31) = CC(L+24)	COL 03700
113		TST(32) = TST(30)*CC(1)	COL 03710
114		TST(33) = TST(31)*CC(1)	COL 03720
115	C		COL 03730
116	C	*BLM HT AEA. DATA ON INDEX=K, FLUTTER DATA ON INDEX=1*	COL 03740
117	C	*TEST J=1 FOR ST ANALYSIS INTEGRATION*	COL 03741
118		IF (J - MD(1)) 1600,1600,1601	COL 03745
119	1600	TCS(K) = TCS(K) + CC(1)	COL 03750
120		TCS(K+11) = TCS(K+11) + CC(1)*(CC(1+18) - TOR(20))	COL 03760
121		TCS(K+22) = TCS(K+22) + TST(33)	COL 03770
122	1601	TCS(1+33) = TCS(1+33) + CC(1)	COL 03780

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
023	TCS(1+44) = TCS(1+44) + TST(32)		COL 03790
024	TCS(1+55) = TCS(1+55) + TST(33)		COL 03800
025	TCS(1+66) = TCS(1+66) + TST(33)+TST(31) + CC(1L+121)		COL 03810
026	TCS(1+77) = TCS(1+77) + TST(32)+TST(30) + CC(1L+121)		COL 03820
027	C		COL 03821
028	C ***PRINT CONC. PT. ITEM INTEGRATION STATION DETAILS--IP		COL 03822
029	C *SET IP2 = 4*		COL 03823
030	IF (IP(13)) 1609,1609,161		
031	1609 IP2 = NO(4)		COL 03826
032	CALL PRTH		COL 03827
033	C		COL 03829
034	C *LOOP FOR NEXT CONC. ITEM AT STATION K*		COL 03830
035	161 CONTINUE		COL 03840
036	C		COL 03850
037	C *DIST. LINE ITEMS **		COL 03860
038	C *CALC FOR STA. 1-11. CHECK 10 HTS. FOR STATUS (0,+,,-)*		COL 03870
039	C *NO MT OR DIST IS OBD OF 00 STA.*		COL 03880
040	C *1+ = FULL TEST. 1-1=CONTINUE LINE INB. CHECK 1ND STA*		COL 03890
041	C *DO AERO SET FIRST. CLEAR MOVE SET (1-10) IF CALC REQ.*		COL 03900
042	162 DO 168 L=1,4		COL 03910
043	IF (CC(1L+117)) 163,160,163		COL 03920
044	163 DO 164 I=1,10		COL 03930
045	TST(1+33) = DC(3)		COL 03940
046	164 CONTINUE		COL 03950
047	C		COL 03960
048	C *SKIP FLOX LOADS SET ON K=11		COL 03970
049	IF (K - NO(10)) 1640,1640,160		COL 03980
050	1640 TOR(3) = TOR(1+62)		COL 03990
051	TOR(6) = TOR(1+68)		COL 04000
052	TOR(9) = TOR(1+65)		COL 04010
053	TOR(11) = TOR(32)		COL 04020
054	TOR(12) = TOR(33)		COL 04030
055	IF (CC(1L+117)) 165,160,166		COL 04040
056	165 IF (TOR(32) - CC(1L+34)) 166,166,175		COL 04050
057	166 CC(1L+117) = DC(3)		COL 04060
058	TOR(11) = CC(1L+34)		COL 04070
059	IF (TOR(33) - CC(1L+34)) 172,172,175		COL 04080
060	C		COL 04089
061	C *INITIAL TEST		COL 04090
062	168 IF (TOR(32) - CC(1L+30)) 169,160,160		COL 04100
063	168 CC(1L+117) = -CC(1L+117)		COL 04110
064	IF (TOR(32) - CC(1L+34)) 170,170,173		COL 04120
065	170 CC(1L+117) = DC(3)		COL 04130
066	TOR(11) = CC(1L+34)		COL 04140
067	171 IF (TOR(33) - CC(1L+34)) 172,172,173		COL 04150
068	172 TOR(2) = CC(1L+34)		COL 04160
069	TOR(11) = DC(3)		COL 04170
070	GO TO 175		COL 04180
071	173 IF (CC(1L+30) - TOR(33)) 174,174,175		COL 04190
072	174 TOR(2) = CC(1L+30)		COL 04200
073	TOR(3) = DC(3)		COL 04210
074	C		COL 04219
075	C *CALC POINTS 1 AND 2*		COL 04220
076	175 DO 177 I=1,2		COL 04230
077	IF (TOR(11)) 177,177,176		COL 04240
078	176 TOR(1+3) = TOR(1)+CC(1L+58) + CC(1L+62)		COL 04250
079	TOR(1+6) = TOR(1)+CC(1L+74) + CC(1L+78)		COL 04260
080	177 CONTINUE		COL 04270
081	C		COL 04280
082	C *CALC INBD. OBD DATA. TEST FOR NO CALC*		COL 04290
083	I = NO(1)		COL 04300
084	IF (TOR(11)) 179,179,178		COL 04310
085	178 TST(44) = TOR(1+11) - TOR(1)		COL 04320
086	IF (TST(44)) 179,179,178		COL 04325
087	178 TST(45) = TOR(1+7) - TOR(1+6)		COL 04330
088	TST(1+33) = TST(44)/D(2)+(TOR(1+4) + TOR(1+31))		COL 04340
089	TST(46) = TOR(1+4)/TOR(1+3)		COL 04350
090	TST(1+35) = TOR(1)+TST(44)+D(1)+D(2)+TST(46)/(D(3)+D(3)+TST(46))		COL 04360
091	TST(1+37) = TST(1+35)+CC(1L+74) + CC(1L+78)		COL 04370
092	CHD(11) = TST(1+35)+CC(1L+135) + CC(1L+130)		COL 04375
093	CHD(12) = CHD(11)+CHD(11)+CHD(11)+TST(1+33)		COL 04376

CARD NO	INPUT LISTING	CONTENTS	****
904		TST(1+30) = TST(1+33)*TST(45)/D(12)+TST(45) + CND(12)	COL 04380
905		TST(1+41) = TST(1+33)*TST(44)/D(12)+TST(44) + CND(12)	COL 04390
906	C	MOVE FINAL AERO(L) DATA ON INDEX K	COL 04410
907	C		COL 04400
908		TCS(K+80) = TCS(K+80) + TST(1+33)	COL 04420
909		TST(47) = TST(1+35) - TQAK+22	COL 04430
1000		TST(48) = TST(47)+TST(1+33)	COL 04440
1001		TST(49) = TQAK+32 - TST(1+37)	COL 04450
1002		TST(50) = TST(48)+TST(1+33)	COL 04460
1003		TCS(K+90) = TCS(K+90) + TST(48)	COL 04470
1004		TCS(K+110) = TCS(K+110) + TST(50)	COL 04480
1005		TCS(K+121) = TCS(K+121) + TST(1+30) + TST(50)+TST(48)	COL 04490
1006		TCS(K+132) = TCS(K+132) + TST(1+41) + TST(48)+TST(47)	COL 04500
1007		CND(K+20) = CND(K+20) + TST(50)+TST(48) + TST(48)+TST(47) + TST(1+COL 04501	
1008		133)/D(12)+TST(44)+TST(44) + TST(45)+TST(45))	COL 04502
1009	C		COL 04500
1010	C	LOOP FOR NEXT HEIGHT. MOVE 180(L) DATA	COL 04510
1011		170 IF (1 - ND(2)) 1700,1702,1702	COL 04520
1012		1700 IF (TOR(3)) 1702,1702,1701	COL 04522
1013		1701 I = ND(2)	COL 04525
1014		GO TO 170	COL 04526
1015		1702 TOR(L+82) = TOR(1)	COL 04530
1016		TOR(L+96) = TOR(7)	COL 04540
1017		TOR(L+88) = TOR(4)	COL 04550
1018	C		COL 04560
1019	C	DO STRUCT STRIPS	COL 04570
1020		100 IF (CC(1L+113)) 101,100,101	COL 04580
1021		101 DO 102 I=1,10	COL 04590
1022		TST(1+33) = DC(3)	COL 04600
1023		102 CONTINUE	COL 04610
1024		TOR(3) = TOR(L+70)	COL 04620
1025		TOR(6) = TOR(L+75)	COL 04630
1026		TOR(9) = TOR(L+83)	COL 04640
1027		TOR(1) = TOR(20)	COL 04650
1028		TOR(2) = TOR(29)	COL 04660
1029		J = ND(1)	COL 04661
1030		IF (CC(1L+113)) 103,100,100	COL 04670
1031		103 IF (TOR(20) - CC(1L+50)) 104,104,103	COL 04680
1032		104 CC(1L+113) = DC(3)	COL 04680
1033		TOR(1) = CC(1L+50)	COL 04700
1034		IF (TOR(29) - CC(1L+50)) 100,100,103	COL 04710
1035	C		COL 04720
1036	C		COL 04730
1037	C	INITIAL TEST	COL 04740
1038		100 IF (TOR(20) - CC(1L+50)) 107,100,100	COL 04750
1039		107 CC(1L+113) = -CC(1L+113)	COL 04760
1040		IF (TOR(20) - CC(1L+50)) 100,100,101	COL 04770
1041		100 CC(1L+113) = DC(3)	COL 04780
1042		TOR(1) = CC(1L+50)	COL 04790
1043		100 IF (TOR(29) - CC(1L+50)) 100,100,101	COL 04800
1044		100 TOR(2) = CC(1L+50)	COL 04810
1045		TOR(1) = DC(3)	COL 04820
1046		GO TO 103	COL 04830
1047		101 IF (CC(1L+54) - TOR(29)) 102,102,103	COL 04840
1048		102 TOR(2) = CC(1L+54)	COL 04850
1049		TOR(3) = DC(3)	COL 04860
1050	C		COL 04880
1051	C	CALC POINTS 1,2	COL 04870
1052		103 DO 105 I=1,2	COL 04880
1053		IF (TOR(1)) 105,105,104	COL 04890
1054		104 TOR(1+3) = TOR(1)+CC(1L+85) + CC(1L+70)	COL 04900
1055		TOR(1+6) = TOR(1)+CC(1L+82) + CC(1L+85)	COL 04910
1056		105 CONTINUE	COL 04920
1057	C		COL 04930
1058	C	CALC 180,080 STRUCT STRIP DATA	COL 04940
1059		I = ND(1)	COL 04950
1060		IF (TOR(1)) 107,107,100	COL 04960
1061		106 TST(44) = TOR(1+1) - TOR(1)	COL 04970
1062		IF (TST(44)) 107,107,1000	COL 04975
1063		1000 TST(45) = TOR(1+7) - TOR(1+6)	COL 04980
1064		TST(1+33) = TST(44)/D(12)+(TOR(1+4) + TOR(1+3))	COL 04990

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05/10/74      INPUT LISTING      AUTOFLW CHART SET - SHEEP      WIND AND EMPENNAGE MODULE -

CARD NO      ****      CONTENTS      ****

1005          TST(46) = TOR(1+4)/TOR(1+3)      COL 05000
1006          TST(1+35) = TOR(1+TST(46)+D(11)+D(12)+TST(46)/(D(13)+D(13)+TST(46))      COL 05010
1007          TST(1+37) = TST(1+35) * CC(1L+02) + CC(1L+06)      COL 05020
1008          CXD(11) = TST(1+35) * CC(1L+13) + CC(1L+17)      COL 05025
1009          CXD(12) = CXD(11) * CXD(11) * CXD(11) * TST(1+33)      COL 05026
1070          TST(1+30) = TST(1+33) * TST(45) / D(12) * TST(45) + CXD(12)      COL 05030
1071          TST(1+41) = TST(1+33) * TST(44) / D(12) * TST(44) + CXD(12)      COL 05040
1072          C      COL 05040
1073          C      MOVE FINAL STRUCT DATA MT ANA. SET ON INDEX K.      COL 05050
1074          C      FLUTTER DATA ON INDEX M-K+1-1*      COL 05060
1075          M = K      COL 05070
1076          IF (K - MD(11)) 1061,1062,1062      COL 05071
1077          1061 M = K + 1 - MD(11)      COL 05072
1078          1062 IF (J - MD(11)) 1063,1063,1064      COL 05075
1079          1063 TCS(K) = TCS(K) + TST(1+33)      COL 05080
1080          TCS(K+1) = TCS(K+1) + TST(1+33) * TST(1+35) - TG(K)      COL 05090
1081          TCS(K+22) = TCS(K+22) + TST(1+33) * TST(1+37)      COL 05100
1082          GO TO 1085      COL 05105
1083          1084 TOR(24) = TOR(24) + TST(1+33)      COL 05110
1084          1085 TCS(M+33) = TCS(M+33) + TST(1+33)      COL 05115
1085          TST(47) = TST(1+35) - TG(M)      COL 05120
1086          TST(48) = TST(47) * TST(1+33)      COL 05130
1087          TST(49) = TST(1+37)      COL 05140
1088          TST(50) = TST(48) * TST(1+33)      COL 05150
1089          TCS(M+44) = TCS(M+44) + TST(48)      COL 05160
1090          TCS(M+55) = TCS(M+55) + TST(50)      COL 05170
1091          TCS(M+66) = TCS(M+66) + TST(50) * TST(48) + TST(1+39)      COL 05180
1092          TCS(M+77) = TCS(M+77) + TST(48) * TST(47) + TST(1+41)      COL 05190
1093          107 IF (1 - MD(21)) 1070,1072,1072      COL 05191
1094          1070 IF (TOR(31)) 1072,1072,1071      COL 05192
1095          1071 1 = MD(21)      COL 05193
1096          GO TO 106      COL 05194
1097          C      COL 05199
1098          C      **TEST FOR K=1 AND WIND INBD OF YS(1) FOR W ONLY**      COL 05199
1099          1072 IF (J - MD(11)) 1073,1073,1076      COL 05200
1100          1073 IF (K - MD(11)) 1074,1074,1076      COL 05201
1101          1074 IF (CC(1L+50) - TOR(20)) 1075,1076,1076      COL 05202
1102          1075 J = MD(2)      COL 05203
1103          TOR(1) = CC(1L+50)      COL 05204
1104          TOR(2) = TOR(20)      COL 05205
1105          TOR(3) = CC(13)      COL 05206
1106          GO TO 103      COL 05207
1107          C      COL 05208
1108          1076 TOR(L+75) = TOR(1)      COL 05210
1109          TOR(L+75) = TOR(4)      COL 05211
1110          TOR(L+83) = TOR(7)      COL 05212
1111          C      COL 05213
1112          C      **PRINT DIST. LINE INTEGRATION STATION DETAILS--IP 13**      COL 05214
1113          C      SET IP2=5*      COL 05215
1114          IF (IP(13)) 1070,1070,100      COL 05216
1115          1070 IP2 = MD(5)      COL 05218
1116          CALL PRTH      COL 05220
1117          C      COL 05221
1118          C      **LOOP FOR NEXT LINE DATA**      COL 05222
1119          100 CONTINUE      COL 05225
1120          C      COL 05226
1121          C      **HEIGHT AND INERTIA AT HEIGHT STATION(1) CALC.**      COL 05230
1122          C      EVALUATE 10(V,M,T)*      COL 05240
1123          IF (MD(11) - K) 100,100,200      COL 05250
1124          100 CC(1+70) = TCS(11)      COL 05260
1125          CC(1+80) = TCS(22)      COL 05270
1126          CC(1+91) = TCS(33)      COL 05280
1127          GO TO 201      COL 05290
1128          200 CC(K+100) = CC(K+100) + TCS(K)      COL 05300
1129          CC(K+103) = CC(K+101) + TCS(K+22)      COL 05310
1130          CC(K+170) = CC(K+100) + TCS(K+11) + CC(K+100) * TG(K+11) - TG(K+11)      COL 05320
1131          C      COL 05330
1132          C      MOVE 1 DATA TO 1-1 LOC      COL 05340
1133          201 GO 202 1-1,2      COL 05350
1134          TOR(1+29) = TOR(1+27)      COL 05360
1135          TOR(1+33) = TOR(1+31)      COL 05365

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CARD NO	INPUT LISTING	CONTENTS	COL
1136	202 CONTINUE		COL 05370
1137	CHD(1) = CHD(1)		COL 05375
1138	CHD(6) = CHD(4)		COL 05376
1139	DO 203 I=1,13		COL 05380
1140	TOR(I+61) = TOR(I+35)		COL 05390
1141	203 CONTINUE		COL 05400
1142	C		COL 05402
1143	C	"LOOP FOR NEXT PANEL"	COL 05410
1144	204 CONTINUE		COL 05420
1145	C	"**SCALE MASS DATA TO REQD MT**"	COL 05440
1146	210 TCS(146) = TCS(247)		COL 05450
1147	TCS(146) = TCS(247)		COL 05460
1148	TCS(144) = TCS(247) - TOR(24)		COL 05470
1149	TCS(147) = TCS(1)		COL 05480
1150	TCS(148) = TCS(34)		COL 05490
1151	TCS(149) = TCS(80)		COL 05500
1152	DO 211 I=1,10		COL 05510
1153	TCS(147) = TCS(147) + TCS(1+1)		COL 05520
1154	TCS(148) = TCS(148) + TCS(1+24)		COL 05530
1155	TCS(149) = TCS(149) + TCS(1+80)		COL 05540
1156	211 CONTINUE		COL 05550
1157	C		COL 05560
1158	DO 213 I=1,3		COL 05570
1159	TCS(1+146) = 0(1)		COL 05580
1160	IF (TCS(1+146)) 212,213,212		COL 05590
1161	212 TCS(1+146) = TCS(1+146)/TCS(1+146)		COL 05600
1162	213 CONTINUE		COL 05610
1163	C		COL 05620
1164	C	"**SCALE ALL MASS DATA**"	COL 05630
1165	DO 216 I=1,35		COL 05640
1166	IF (I - 33) 214,214,215		COL 05650
1167	214 TCS(I) = TCS(I)*TCS(150)		COL 05660
1168	CC(1+100) = CC(1+100)*TCS(150)		COL 05670
1169	215 TCS(1+33) = TCS(1+33)*TCS(151)		COL 05680
1170	TCS(1+80) = TCS(1+80)*TCS(152)		COL 05690
1171	216 CONTINUE		COL 05700
1172	C		COL 05700
1173	C	"**SCALE AND MOVE 110) YAW DATA--AERO SYSTEM ONLY**"	COL 05709
1174	DO 218 I=1,10		COL 05710
1175	CHD(1+20) = CHD(1+20)*TCS(152)		COL 05711
1176	C10Y(1+30) = CHD(1+20)		COL 05712
1177	218 CONTINUE		COL 05713
1178	C		COL 05710
1179	C		COL 05720
1180	C	"**PRINT FINAL OUTPUT ARRAYS ON IP 14**"	COL 05730
1181	C	"SET IPE=1"	COL 05740
1182	IF (IP(14)) 217,217,800		
1183	217 IPE = ND(1)		COL 05750
1184	CALL PRTH		COL 05770
1185	C		COL 05780
1186	C		COL 05800
1187	C	"**EXIT**"	COL 05801
1188	800 RETURN		COL 05802
1189	END		COL 05808
1190	C		
1191	C		
1192	C	"****SUBROUTINE COL****"	
1193	C	"**EXTERNAL CONCENTRATED DEADWEIGHT EVALUATION**"	
1194	C		
1195	C		
1196	C		
1197	C	SUBROUTINE COL	COL 060
1198	C		COL 06020
1199	C	"**CONCENTRATED ON AND MISC DIST. MT. LOAD AND INERTIA.**"	COL 06030
1200	C		COL 06040
1201	C	"**REVISION-01-15-73-NEW FORMAT.	COL 06050
1202	C	"ORIGINAL--01-17-05.	COL 06060
1203	C		COL 06070
1204	C	COMMON Y	COL 06080
1205	C	COMMON /IPRINT/ IP(80)	COL 06081
1206	C		COL 06090

CARD NO	****	CONTENTS	****
1207		DIMENSION T(1220),D(2060),CD(2000),ND(100),DC(100),	COL 00100
1208		ITG(300),TMD(400),CC(1300),TC(1250),TST(50),T(124),	COL 00101
1209		ZYC(150),TAND(10),CCLO(10),SIND(10),COS(10),TOR(100),TGA(135),	COL 00102
1210		XCOL(215),	COL 00103
1211		SCIOY(150),CHK(50),	COL 00105
1212		XCOL(100),OFXC(2)	COL 00109
1213	C		COL 00110
1214		EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),	COL 00120
1215		(DC(1),D(1401)),(T(1),T(101)),(TMD(1),T(1301)),(TST(1),T(1701)),	COL 00121
1216		ZYC(1),T(201)),(T(1),T(411)),(CC(1),CD(1051)),(TCS(1),CD(1401)),	COL 00122
1217		3TOR(1),T(1751)),(TGA(1),T(1051)),	COL 00123
1218		4TAND(1),T(1221),XCOL(1),T(131)),(SIND(1),T(1401)),	COL 00124
1219		5(COS(1),T(1401)),(COS(1),T(121)),	COL 00125
1220		6TAND(1),T(1001),XCOL(1),T(911),OFXC(1),D(2741)),	COL 00126
1221		7(XCOL(1),D(10551)),	COL 00127
1222		8(XCOL(2-1),D(12001),XULF,D(1221)),UPHZ D(2051)),	COL 00128
1223		9(I,ND(1261)),(N,ND(1271)),(L,ND(1281)),(K,ND(1301)),(M,ND(1311)),(J,ND(1291))	COL 00129
1224		D(1C10Y(1),T(5011)),(CHK(1),CD(11951))	COL 00133
1225	C		COL 00140
1226	C		COL 00200
1227	C	***SETUP NZ(MAX) FOR DELTA MT. CALC***	COL 00210
1228	300	TOR(100) = ULF*DCOL(211)	COL 00220
1229		IF (TOR(100)) 301,301,302	COL 00230
1230	301	TOR(100) = UPHZ	COL 00240
1231	C		COL 00250
1232	C	***CLEAR TCS(1144-152)***	COL 00260
1233	302	DO 303 I=1,12	COL 00270
1234		TCS(I+143) = DC(13)	COL 00280
1235	303	CONTINUE	COL 00290
1236	C		COL 00300
1237		IND = -1	
1238	C		COL 00000
1239	C	***CONC DEAD MT ITEMS. ITEMS 3,4,5,6,7- FIXED.***	COL 00010
1240	C	***ITEMS 1,2 -EXPENDABLE ITEMS AT DCM. (-MT)-DELETE.***	COL 00020
1241	400	DO 452 L=1,7	COL 00030
1242		N = L*ND(112) - ND(12)	COL 00040
1243	C		COL 00049
1244	C	***MOVE DATA TO WORKING BLOCK***	COL 00050
1245		DO 401 I=1,12	COL 00060
1246		K = N + 1	COL 00070
1247		TOR(I) = XCOL(K)	COL 00080
1248	401	CONTINUE	COL 00090
1249	C		COL 00099
1250	C	***TEST MT. CALC FOR BOTH POSITIVE AND NEGATIVE HEIGHTS	COL 00100
1251	C		COL 00102
1252	C	***TEST Y FOR NEGATIVE VALUE--INDICATES X=US STATION***	COL 00103
1253	C	***DATA FROM DATA MANAGEMENT--SETUP BY SUBR CNTL***	COL 00104
1254	C		COL 00109
1255		IF (TOR(1)) 402,452,402	COL 00110
1256	402	DO 403 I=1,07	COL 00120
1257		TOR(I+12) = DC(13)	COL 00130
1258	403	CONTINUE	COL 00140
1259		TOR(13) = ABS(TOR(1))	COL 00150
1260	C		COL 00151
1261		IND = IND + 1	
1262	C	***CALC DELTA MTS***	COL 00152
1263		TOR(00) = XCOL(00)	COL 00153
1264		IF (XCOL(1-L+1) - D(1)) 4030,4031,4031	COL 00154
1265	4030	TOR(00) = XCOL(00)	COL 00155
1266	4031	TOR(00) = TOR(12)*XCOL(07)	COL 00156
1267		TMD(L+0) = XCOL(1-L+0)*(TOR(00)*(XCOL(04)*TOR(100)/XCOL(05)+TOR(13))	COL 00157
1268		I = XCOL(06) + TOR(00)	COL 00158
1269		TMD(0) = TMD(0) + TMD(L+0)	COL 00160
1270		TCS(L+234) = TMD(L+0)	COL 00161
1271	C		COL 00164
1272	C	***TEST Y(INPUT) FOR I-1. IF I-1, X=US STA***	COL 00165
1273		TOR(20) = TOR(1)	COL 00166
1274		TOR(10) = ABS(TOR(21))	COL 00170
1275		IF (TOR(21)) 4070,4030,4030	COL 00175
1276	4030	IF (TOR(2) - D(1)) 404,404,405	COL 00176
1277	404	TOR(10) = TOR(2)*002	COL 00180

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1278	405 TT(1) = TOR(10)		COL00100
1279	TT(2) = DC(3)		COL00200
1280	IF(IND)9501,9501,9505		
1281	9501 IF(1P(15))9502,9502,9505		
1282	9502 WRITE(C,9503)		
1283	9503 FORMATT(1H,7IX,3BH)** C TOTZ (CALLED FROM COL1 - 1P(15) **)		
1284	C		
1285	9505 CALL C TOTZ		
1286	C		COL00210
1287	IF (ABS(TOR(3)) - D(1)) 406,406,407		COL00220
1288	406 TOR(20) = TOR(3)*YC(9)		COL00230
1289	407 TOR(20) = YC(2) + TOR(20)		COL00240
1290	4070 TOR(60) = TOR(10)*TAND(3) + CCLO(3)		COL00250
1291	TOR(15) = TOR(60) - TOR(20)		COL00260
1292	TOR(14) = TOR(10)/COSO(3)		COL00270
1293	TOR(23) = COSO(3)*TOR(15)		COL00280
1294	TOR(22) = TOR(14) - TOR(15)*SIND(3)		COL00290
1295	TOR(21) = TOR(10)*TANDH + CCLOH + TOR(14)		COL00300
1296	C *TEST TYPE FOR 1(0) CALC*		COL00320
1297	C *B=INPUT 1(0). NOT ZERO=INPUT K(1Y,1X,1Z) IF DATA IS		COL00330
1298	C NOT 0 OR LESS THAN 10.*		COL00331
1299	C *ID 1=CIRC/ELLIP, 2=RECT., 3=OPEN, 4=ASSUMED KIA,B)*		COL00332
1300	TOR(17) = TOR(7)		COL00350
1301	TOR(18) = TOR(8)		COL00360
1302	IF (TOR(5)) 409,410,409		COL00370
1303	C		COL00370
1304	C *CALC 1(0). TEST TYPE FOR K(A) AND K(B) COEFF.*		COL00380
1305	C *TEST INPUT K(1Y,X,Z) FOR 0 OR VALUE GREATER THAN 10.0COL00390		
1306	C *USE ASSUMED CALIBRATION CONSTANTS FOR 0 OR 1(0) **		COL00400
1307	408 DO 413 1=1,3		COL00410
1308	IF (TOR(1+15)) 411,411,410		COL00420
1309	410 IF (TOR(1+15) - D(10)) 412,412,411		COL00430
1310	411 TOR(1+15) = DCOL(1+80)		COL00440
1311	C		COL00440
1312	C *1(0) K(A,B) FOR ID=3 OR 4*		COL00440
1313	412 TOR(1+60) = DCOL(1+84)		COL00450
1314	TOR(1+63) = DCOL(1+87)		COL00460
1315	413 CONTINUE		COL00470
1316	C		COL00470
1317	C *TEST FOR STANDARD K(A),K(B) FOR CIR,RECT ON ID=1,2,3*		COL00480
1318	C *K(A,B) FOR ID=3 AND 4 HAS BEEN SET*		COL00490
1319	C *DEFL 1(0) EQU = K(MT/12)((K(A)*A*A) + (K(B)*B*B))		COL00500
1320	C *K(A,B) = 1.5 FOR RECT. ID=2*		COL00501
1321	M = TOR(5)		COL00510
1322	IF (M - MD(2)) 414,414,417		COL00520
1323	414 DO 415 1=1,8		COL00530
1324	TOR(1+60) = D(1)		COL00540
1325	415 CONTINUE		COL00550
1326	IF (M - MD(2)) 418,417,417		COL00560
1327	416 TOR(61) = .75		COL00570
1328	TOR(65) = .75		COL00600
1329	TOR(63) = .75		COL00590
1330	TOR(62) = .75		COL00580
1331	C		COL00610
1332	C *WING GEOMETRY = D,M,W,L,D,L*		COL00619
1333	417 TOR(67) = TOR(13)/D(12)		COL00620
1334	TOR(68) = TOR(11)		COL00630
1335	TOR(69) = TOR(10)		COL00640
1336	TOR(70) = TOR(10)		COL00650
1337	TOR(71) = TOR(9)		COL00660
1338	TOR(72) = TOR(11)		COL00680
1339	TOR(73) = TOR(9)		COL00670
1340	DO 417B 1=1,3		COL00680
1341	TOR(1+15) = TOR(1+15)+TOR(67)+TOR(1+60)+TOR(1+67)+TOR(1+67) + TOR(61)		COL00690
1342	1(1+63)+TOR(1+70)+TOR(1+70))		COL00700
1343	417B CONTINUE		COL00710
1344	C		COL00720
1345	C ***AERO 10(1Y,X,Z) AT C. 0. REQD FOR W ANALYSIS***		COL00730
1346	C *10(1Y,X,Z) AT EA FOR AERO SYSTEM*		COL00735
1347	418 TOR(91) = TOR(16) + TOR(13)+TOR(15)+TOR(15) + TOR(15) OR(11)		COL00740
1348	TOR(92) = TOR(17) + TOR(13)+TOR(14)+TOR(14)		COL00745

CARD NO	INPUT LISTING	CONTENTS	CDL
1349	****	TOR(93) = TOR(18) + TOR(13) + TOR(14) + TOR(15)	CDL 08750
1350	C		CDL 08760
1351	C	**INTEGRATE W.CO, INERTIA, V.M, T**	CDL 08770
1352	C	*1. CALC (V,M,T) SETS 1,2 AND SUM SET FOR POSI. (1-7)*	CDL 08780
1353	C	*2. FLEX LOADS DATA. SUM BEAMED WT.CO FOR POSI. (1-7)*	CDL 08790
1354	C	*3. FLUTTER DATA. KEEP 3,4 SEPARATED. SUM POSI. (1,2,5-7)CDL 08800	CDL 08810
1355	C	**SETUP K(1-7) IN TCS(228-234)=0,-1,-1**	CDL 08820
1356	C	*DO MT AND FLUTTER CALC. MTS ARE ALL POSITIVE*	CDL 08830
1357	C	SETUP KEYS FOR SUM V,MT AND SKIP TEST=1 OR TEST=0	CDL 08840
1358		TOR(75) = DC(13)	CDL 08850
1359		TOR(76) = DC(13)	CDL 08860
1360		TCS(L+227) = TOR(11)/TOR(13)	CDL 08870
1361	C		CDL 08880
1362		*181 DO 444 N=1,11	CDL 08890
1363		K = NO(12) - N	CDL 08900
1364		IF (TOR(74)) 419,419,421	CDL 08910
1365	419	TOR(77) = TOR(14) - TO(K)	CDL 08920
1366		IF (TOR(77)) 422,420,420	CDL 08930
1367	420	TOR(74) = D(1)	CDL 08940
1368		TOR(K+23) = TOR(13)	CDL 08950
1369		TOR(76) = TOR(15)*SIND(3)	CDL 08960
1370		TOR(78) = TOR(15)*COSD(3)	CDL 08970
1371		TOR(K+34) = TOR(13) + TOR(77) - TOR(76)	CDL 08980
1372		TOR(K+45) = TOR(13) + TOR(78)	CDL 08990
1373		GO TO 422	CDL 09000
1374	421	TOR(K+23) = TOR(K+24)	CDL 09010
1375		TOR(K+45) = TOR(K+46)	CDL 09020
1376		TOR(K+34) = TOR(K+35) + TOR(K+24)*(TO(K+1) - TO(K))	CDL 09030
1377	C		CDL 09040
1378	C	***TEST FOR FLUTTER. NO SUM FOR 3,4 OR ID=0.***	CDL 09050
1379	C	**SKIP 1,2 IF DATA(12)=1. ID TO ADD TO CDL(3,4) FOR W**	CDL 09060
1380	C	**IF DATA(12)=1, Y(12) MUST EQUAL Y(12) 3, 24.**	CDL 09070
1381	C	*THIS IS FOR W ANALYSIS DATA ONLY*	CDL 09080
1382	C		CDL 09090
1383	422	IF (TCS(L+227)) 444,444,423	CDL 09100
1384	423	IF (L - NO(12)) 424,424,424	CDL 09110
1385	424	IF (TOR(12)) 425,425,426	CDL 09120
1386	426	IF (NO(15) - L) 425,425,426	CDL 09130
1387	C		CDL 09140
1388	C	*TEST KEY FOR SUM*	CDL 09150
1389	425	IF (TOR(75)) 426,426,426	CDL 09160
1390	426	IF (TO(K+44) - TOR(14)) 427,426,426	CDL 09170
1391	427	TOR(74) = D(1)	CDL 09180
1392		TOR(76) = TOR(15)*SIND(3)	CDL 09190
1393		TOR(78) = TOR(15)*COSD(3)	CDL 09200
1394		TOR(77) = TOR(14) - TOR(76) - TO(K)	CDL 09210
1395		TCS(K+33) = TCS(K+33) + TOR(13)	CDL 09220
1396		TCS(K+44) = TCS(K+44) + TOR(13) + TOR(77)	CDL 09230
1397		TOR(80) = TOR(13) + TOR(14) + TOR(15)	CDL 09240
1398		TCS(K+95) = TCS(K+95) + TOR(13) + TOR(78)	CDL 09250
1399		TCS(K+86) = TCS(K+86) + TOR(13) + TOR(79) + TOR(76) + COSD(3)*TOR(16)	CDL 09260
1400		I = SIND(3)*TOR(17) + TOR(80)	CDL 09270
1401		TCS(K+77) = TCS(K+77) + TOR(13) + TOR(77) + TOR(77) + COSD(3)*TOR(17)	CDL 09280
1402		I = SIND(3)*TOR(16) + TOR(80)	CDL 09290
1403	C		CDL 09300
1404	C	*LOADS. ONLY POSITIVE HEIGHTS. ID TESTED IN W CALC.	CDL 09310
1405	C	*TEST CALC KEY TOR(78), SKIP IF K=11.	CDL 09320
1406	C	*NO BEARING IF CG 180 OF YCG(1) OR 08 OF YCG(10)*	CDL 09330
1407	C	*CHECK CDL(1,2) FOR DELTA MT OUT TO DESIGN**	CDL 09340
1408	C	**FOR (110) YAW, USE TOTAL WT DATA--ASSUME NO REDUCTION**CDL 09350	CDL 09360
1409	428	IF (K - NO(11)) 429,444,444	CDL 09370
1410	429	TOR(93) = D(1)	CDL 09380
1411		IF (TOR(76)) 4281,4281,444	CDL 09390
1412	4281	IF (L - NO(12)) 4282,4283,430	CDL 09400
1413	4282	TOR(94) = D(1)	CDL 09410
1414		GO TO 4284	CDL 09420
1415	4283	TOR(94) = D(1)	CDL 09430
1416	4284	IF (TOR(94)) 430,430,4285	CDL 09440
1417	4285	IF (TOR(94) - D(1)) 4286,4286,4287	CDL 09450
1418	4286	TOR(94) = TOR(94) + TOR(13)	CDL 09460
1419	4287	TOR(93) = D(1) - TOR(94)/TOR(13)	CDL 09470

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SKEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1420	IF (TOR(83)) 4200,430,430		COL 09215
1421	4200 TOR(93) = DC(3)		COL 09216
1422	C		COL 09220
1423	430 IF (TGA(K) - TOR(19)) 431,431,444		COL 09230
1424	431 TOR(76) = D(1)		COL 09240
1425	TOR(95) = D(1) - TOR(93)		COL 09245
1426	IF (K - MD(10)) 432,435,435		COL 09250
1427	432 IF (K - MD(11)) 433,433,437		COL 09260
1428	C		COL 09269
1429	C *ROOT PANEL*		COL 09270
1430	433 IF (TOR(19) - TGA(K+22)) 434,434,439		COL 09280
1431	434 J = MD(2)		COL 09290
1432	TOR(81) = DC(3)		COL 09300
1433	TOR(82) = D(1)		COL 09310
1434	TOR(95) = TOR(19) - TGA(K+22)		COL 09320
1435	GO TO 441		COL 09330
1436	C		COL 09339
1437	C *TIP PANEL*		COL 09340
1438	435 IF (TGA(K+22) - TOR(19)) 436,436,439		COL 09350
1439	436 J = MD(1)		COL 09360
1440	TOR(81) = D(1)		COL 09370
1441	TOR(82) = DC(3)		COL 09380
1442	TOR(94) = TOR(19) - TGA(K+22)		COL 09390
1443	GO TO 441		COL 09400
1444	C		COL 09409
1445	C *SECTION 2-9*		COL 09410
1446	437 IF (TOR(19) - TGA(K+22)) 438,438,439		COL 09420
1447	438 J = MD(2)		COL 09430
1448	TOR(83) = TGA(K+22) - TGA(K+21)		COL 09440
1449	TOR(94) = TOR(19) - TGA(K+21)		COL 09450
1450	TOR(95) = TOR(19) - TGA(K+22)		COL 09460
1451	GO TO 440		COL 09470
1452	C		COL 09479
1453	439 J = MD(1)		COL 09480
1454	TOR(83) = TGA(K+23) - TGA(K+22)		COL 09490
1455	TOR(94) = TOR(19) - TGA(K+22)		COL 09500
1456	TOR(95) = TOR(19) - TGA(K+23)		COL 09510
1457	440 TOR(81) = ABS(TOR(95))/TOR(83)		COL 09520
1458	TOR(82) = ABS(TOR(94))/TOR(83)		COL 09530
1459	C		COL 09540
1460	C ***SAVE DELTA COL M,MY,MX,MYX FOR TOTALS CALC***		COL 09548
1461	C *SAVE IN CIOY(171-120), 10 PER ITEM*		COL 09549
1462	441 DO 443 1=1,2		COL 09550
1463	IF (TOR(1+80)) 443,443,442		COL 09560
1464	442 M = K + 1 - J		COL 09570
1465	TOR(86) = TOR(1+80)*TOR(13)*TOR(93)		COL 09580
1466	TOR(96) = TOR(95)*TOR(13)*TOR(1+80)		COL 09585
1467	TCS(M+88) = TCS(M+88) + TOR(86)		COL 09590
1468	CIOY(M+70) = CIOY(M+70) + TOR(96)		COL 09595
1469	TOR(87) = TOR(86)*TOR(1+83)		COL 09600
1470	TOR(88) = TGA(M+32) - TOR(20)		COL 09610
1471	TOR(89) = TOR(86)*TOR(88)		COL 09620
1472	TOR(90) = TOR(86)*TOR(14)		COL 09630
1473	TCS(M+98) = TCS(M+98) + TOR(87)		COL 09640
1474	CIOY(M+80) = CIOY(M+80) + TOR(89)*TOR(1+83)		COL 09645
1475	TCS(M+110) = TCS(M+110) + TOR(89)		COL 09650
1476	CIOY(M+90) = CIOY(M+90) + TOR(90)*TOR(88)		COL 09655
1477	TCS(M+121) = TCS(M+121) + TOR(1+80)*TOR(18) + TOR(18)*TOR(93) +		COL 09660
1478	TOR(88)*TOR(88) + TOR(90)*TOR(14)		COL 09670
1479	CIOY(M+100) = CIOY(M+100) + TOR(1+80)*TOR(18) + TOR(18)*TOR(95)		COL 09675
1480	10 TOR(88)*TOR(88)*TOR(88) + TOR(96)*TOR(14)*TOR(14)		COL 09676
1481	TCS(M+132) = TCS(M+132) + TOR(1+80)*TOR(17) + TOR(18)*TOR(93) +		COL 09680
1482	TOR(87)*TOR(1+83) + TOR(90)*TOR(14)		COL 09680
1483	CIOY(M+118) = CIOY(M+118) + TOR(1+80)*TOR(17) + TOR(18)*TOR(95)		COL 09691
1484	10 TOR(88)*TOR(1+83)*TOR(1+83) + TOR(96)*TOR(14)*TOR(14)		COL 09692
1485	CHD(M+30) = CHD(M+30) + TOR(1+80)*TOR(18) + TOR(18)*TOR(88)*TOR		COL 09695
1486	100 + TOR(83)*TOR(83))		COL 09696
1487	443 CONTINUE		COL 09700
1488	C		COL 09709
1489	C *LOOP NEXT STATION*		COL 09710
1490	444 CONTINUE		COL 09720

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MINING AND EMPLOYMENT MODULE -
CARD NO	CONTENTS		
1491	C		COL 09709
1492	C	**SAVE COL(1) DATA BEFORE LOOP 7 SETS OF 12 CALC DATA=COL 09730	
1493	445 M = L*ND(12) + ND(12)		COL 09740
1494	TCS(147) = T(14)		COL 09745
1495	DO 446 I=1,8		COL 09750
1496	J = M-I		COL 09760
1497	TCS(J+147) = TOR(I+15)		COL 09770
1498	IF (1 - ND(3)) 4450,4450,446		COL 09771
1499	4450 TCS(J+143) = TOR(I+12)		COL 09775
1500	446 CONTINUE		COL 09780
1501	C		COL 09780
1502	C	**SAVE V,M,T SETS FOR 1,2 AND SUM POSITIVE SETS (3-7)**	COL 09790
1503	C		COL 09800
1504	IF (1 - ND(2)) 447,447,448		COL 09810
1505	447 M = L*33 - 33		COL 09820
1506	DO 448 I=1,33		COL 09830
1507	J = M-I		COL 09840
1508	CC(1+20) = TOR(I+23)		COL 09850
1509	448 CONTINUE		COL 09860
1510	GO TO 452		COL 09870
1511	C		COL 09870
1512	449 IF (TCS(1+227)) 452,452,450		COL 09880
1513	450 DO 451 I=1,33		COL 09890
1514	CC(1+267) = CC(1+267) + TOR(I+23)		COL 09900
1515	451 CONTINUE		COL 09910
1516	C		COL 09910
1517	C	**LOOP FOR NEXT COL(1) SET**	COL 09920
1518	C		COL 09920
1519	452 CONTINUE		COL 09930
1520	C		COL 09930
1521	C	***SAVE (10) VAN DATA***	COL 09930
1522	DO 4520 I=1,10		COL 09940
1523	C10Y(1+40) = C10(1+30)		COL 09941
1524	4520 CONTINUE		COL 09942
1525	C		COL 09940
1526	C	***TEST BK PRINT***	COL 09950
1527	C	**PRINT ON IP 10*	
1528	IF (IP(10)) 453,453,999		
1529	453 WRITE (6,454)		COL 09980
1530	C		
1531	454 FORMAT (37H1 ***COL SUBR--TOR AND TCS ARRAYS***,95X,		
1532	I 10H** COL - IP(10) **END TCS)		
1533	902 FORMAT (1H 14,SE10.0)		
1534	906 FORMAT (10H TOR)		
1535	DO 9040 NI=1,250.5		
1536	K2 = NI + ND(4)		
1537	WRITE (6,902)NI,(TCS(1),11+NI,K2,1)		
1538	9040 CONTINUE		
1539	WRITE (6,906)		
1540	DO 9060 NI=1,100.5		
1541	K2 = NI + ND(4)		
1542	WRITE (6,902)NI,(TOR(1),11+NI,K2,1)		
1543	9060 CONTINUE		
1544	C		COL 10020
1545	C		COL 10080
1546	C	**EXIT**	COL 10091
1547	999 RETURN		COL 10092
1548	END		COL 10099
1549	C		
1550	C		
1551	C	*****SUBROUTINE FDIS*****	
1552	C	**FUEL HEIGHT/DIST AND INITIAL T-BOX WT. EVALUATION**	
1553	C		
1554	C		
1555	C		
1556	C	SUBROUTINE FDIS	FD150010
1557	C		FD150020
1558	C	***FUEL AND INITIAL T-BOX DISTRIBUTION SUBR***	FD150030
1559	C		FD150040
1560	C	***REVISION--81-15-73--NEW FORMAT. ADD 2-CELL BOX AND INERTIA	FD150050
1561	C	CALC. LOGIC. DO INITIAL T.B. V,M,T EST.***	FD150060

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	****	CONTENTS	****
1562	C		FD150070
1563		COMMON T	FD150080
1564		COMMON /PRINT/ IP(00)	FD150081
1566	C		FD150090
1566		DIME(100) T(6220),D(2060),CD(2000),ND(100),DC(100),	FD150100
1567		ITG(300),TNG(400),CC(300),TCS(250),CFL(11150),CFL2(1150),	FD150101
1568		2TST(50),TOR(100),T(124),YC(150),TAND(8),CCLO(9),SIND(6),COS(6),	FD150102
1569		3DFL(14),TGA(135),TBD(11),DINT(112),TWT(250),DKDIN(15),	FD150103
1570		4DTBZ(22),	FD150104
1571		5CCOL(1150),	FD150105
1572		6CLOY(150),	FD150106
1573		6CCF(200)	FD150108
1574	C		FD150110
1575		EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),	FD150120
1576		1(DC(1),D(1401)),(TG(1),T(1001)),(TNG(1),T(1301)),(TST(1),T(1701)),	FD150121
1577		2(TC(1),T(201)),(TT(1),T(411)),(CC(1),CD(1051)),(TCS(1),CD(1401)),	FD150122
1578		3(CFL(1),CD(951)),(CFL2(1),CD(1101)),(TOR(1),T(1751)),	FD150123
1579		4(TAND(1),T(122)),(CCLO(1),T(131)),(SIND(1),T(140)),(DKD(1),D(110)),	FD150124
1580		5(COS(1),T(146)),(COTEA,T(152)),(BOZ,T(122)),(TWT(1),CD(51)),	FD150125
1581		6(BOZ,T(151)),(TGA(1),T(1051)),(HSTPH,D(137)),(DINT(1),D(1143)),	FD150126
1582		7(DFL(1),D(2061)),(TBD(1),D(277)),	FD150127
1583		8(PAGE,ND(001)),(NPAGE,ND(051)),(ODMD,D(1051)),(OKMD,D(1441)),	FD150128
1584		9(I,ND(261)),(N,ND(271)),(L,ND(281)),(J,ND(291)),(K,ND(301)),(R,ND(311))	FD150129
1585	C		FD150130
1586		EQUIVALENCE (TAND,T(102)),(DIND,D(271)),(DKDIN(1),D(1970)),	FD150131
1587		8(DTBZ(1),D(1121)),(DTBZ1,D(1120)),	FD150132
1588		3(DFL,D(1701)),	FD150133
1589		4(CCOL(1),CD(901)),	FD150134
1590		5(DLTX,T(1001)),	FD150135
1591		6(CLOY(1),T(901)),	FD150136
1592		7(CCF(1),CD(051)),	FD150137
1593		9(CCLS,T(031))	FD150138
1594	C		FD150140
1595	C		FD150141
1596	C	***BK PRINT ID=IP(3,4,00)***	FD150142
1597	C	*IP(2) = FUEL CELL AND LOAD DATA*	FD150143
1598	C	*IP(4) = SUMMARY ARRAYS*	FD150144
1599	C	*IP(00) = DETAILS*	FD150145
1600	C		FD150150
1601	C		FD150156
1602	C	*CLEAR FUEL DATA OUTPUT SUMMARY BLOCK*	FD150157
1603		1000 DO 1009 I=1,200	FD150158
1604		CCF(I) = DC(3)	FD150159
1605		1009 CONTINUE	FD150160
1606	C		FD150161
1607	C	***DO FUEL DIST. FOR 2 CELLS***	FD150161
1608	C	*HOME INPUT DATA AND SETUP GEOMETRIES*	FD150162
1609		DO 101 I=1,2	FD150163
1610	C		FD150164
1611		DO 1010 I=1,50	FD150165
1612		TST(I) = DC(3)	FD150166
1613		1010 CONTINUE	FD150167
1614	C		FD150168
1615		N = L*ND(7) - ND(7)	FD150170
1616		DO 101 I=1,7	FD150180
1617		K = N+I	FD150190
1618		TST(I) = DFL(K)	FD150200
1619		101 CONTINUE	FD150210
1620	C		FD150220
1621		DO 102 I=1,250	FD150230
1622		CC(1) = DC(3)	FD150240
1623		TCS(1) = DC(3)	FD150250
1624		102 CONTINUE	FD150260
1625	C		FD150270
1626	C	***TEST FOR FUEL CALC. DENSITY=0 FOR NO CALC.***	FD150271
1627		IF (TST(3)) 122,122,103	FD150272
1628	C		FD150273
1629	C	*CALC INNO/ORD STATIONS*	FD150280
1630		103 DO 106 I=1,2	FD150290
1631		CC(1+I(3)) = TST(I)	FD150300
1632		IF (TST(1) - 0(1)) 104,104,105	FD150310

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1033	104 CC(11)=113) = 802*TS(11)		FD150320
1034	105 CC(11)=115) = CC(11)=113)*TAND(3) + CCL0(3)		FD150330
1035	106 CONTINUE		FD150340
1036	C		FD150350
1037	CC(110) = (CC(115) - CC(114))/D(10)		FD150360
1038	IF (CC(110)) 122,122,1080		FD150370
1039	C		FD150380
1040	C	LOOP FOR 11 CUTS FOR FUEL CELL	FD150390
1041	1060 TT(1) = CC(114) - CC(110)		FD150400
1042	TS(23) = CC(3)		FD150405
1043	C		FD150409
1044	DO 112 N=1,11		FD150410
1045	TT(1) = TT(1) + CC(110)		FD150420
1046	TT(2) = TT(1)*TAND(3) + CCL0(3)		FD150430
1047	C		
1048	IF (N - 1) 9511,9511,9515		
1049	9511 IF (IP(15)) 9512,9512,9515		
1050	9512 WRITE(6,9513)		
1051	9513 FORMAT(1H,954,50H*** COT2 CALLED FROM FD15 - LOOP 112) - (P(15)		
1052	***)		
1053	C		
1054	9515 CALL COT2		
1055	CC(1N) = TT(1)/COS0(3)		FD150450
1056	CC(1N+11) = (YC(21) - YC(20))/COS0(3)		FD150460
1057	CC(1N+22) = YC(27)		FD150470
1058	CC(1N+33) = YC(13)		FD150480
1059	CC(1N+44) = YC(20)		FD150500
1060	CC(1N+55) = YC(15)		FD150510
1061	CC(1N+66) = YC(22)		FD150520
1062	C		FD150529
1063	C	*STRAIGHT INTERPOLATION FOR LOCAL DEPTH*	FD150530
1064	I = ND(1)		FD150540
1065	107 IF (TO(1+12) - TT(1)) 108,108,109		FD150550
1066	108 I = I + ND(1)		FD150560
1067	IF (ND(10) - I) 109,109,107		FD150570
1068	109 TS(0) = (TT(1) - TO(1+11))/(TO(1+12) - TO(1+11))*TBD(1+1) + TBD(1)		FD150580
1069	111) + TBD(1)		FD150595
1070	CC(1N+126) = TS(0)		FD150600
1071	TS(0) = TS(0) + (TS(0) - MSTN*DL/DL)*YC(27)		FD150600
1072	TS(1N+11) = TS(0)		FD150605
1073	IF (ND(1) - N) 110,111,111		FD150610
1074	110 CC(1N+76) = (TS(0) - TS(10))/(CC(1N) - CC(1N-1))		FD150620
1075	CC(1N+88) = TS(0) - CC(1N+76)*CC(1N-1)		FD150630
1076	TS(1N+22) = (TS(0) - TS(10))/D(2)*(CC(1N) - CC(1N-1))		FD150635
1077	TS(23) = TS(23) + TS(1N+22)		FD150636
1078	111 TS(10) = TS(0)		FD150640
1079	112 CONTINUE		FD150650
1080	C	*SCALE HEIGHT VALUE=0.0*	FD150651
1081	TCS(10) = DC(3)		FD150655
1082	C		FD150659
1083	C	*ID FOR FUEL, 2=HT, CO ONLY, 3=INERTIA, 10=DINID=D(27)/FD150660	
1084	C	*SETUP NO OF STRIPS/ORIOS AND MIN Y,X SPACINGS*	FD150670
1085	C	*SET ID(CCI(00)) = 3 FOR FUEL INERTIA CALC.*	FD150680
1086	1120 CCI(00) = D(3)		FD150682
1087	CCI(00) = DINT(1)		FD150686
1088	CCI(10) = DINT(7)		FD150700
1089	CCI(100) = DINT(4)		FD150710
1090	CCI(102) = DINT(10)		FD150720
1091	CCI(130) = DNDIN(5)		FD150725
1092	C		FD150730
1093	C	*CALL INTEGRATION SUBR*	FD150740
1094	1121 CALL TBFW1		FD150750
1095	C		FD150760
1096	C	*PROCESS INITIAL DATA AND SCALE FOR FINAL*	FD150770
1097	CCI(110) = TCS(100)		FD150780
1098	C		FD150790
1099	C	*CAPACITY OF TANK	FD150800
1700	IF (TS(5)) 115,115,1120		FD150805
1701	1120 IF (TS(5) - D(1)) 113,115,114		FD150810
1702	113 CCI(124) = CCI(110)*TS(5)		FD150820
1703	GO TO 116		FD150830

05/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP

WING AND EMPENNAGE MODULE -

CARD NO	CONTENTS	
1704	114 CC(1174) = TST(5)	FD150040
1705	C	FD150040
1706	C *FUSE CALC CAPACITY*	FD150050
1707	IF (CC(1119) - CL(1124)) 115,116,116	FD150060
1708	115 CC(1124) = CC(1119)	FD150070
1709	C	FD150080
1710	C *FUEL SYS AND DESIGN HEIGHT*	FD150090
1711	116 CC(1126) = TST(6)	FD150090
1712	IF (TST(6) - D(111) 117,118,118	FD150100
1713	117 CC(1126) = CC(1124)*TST(6)	FD150110
1714	118 CC(1125) = TST(4)	FD150120
1715	IF (TST(4) - D(111) 115,118,120	FD150130
1716	119 CC(1125) = TST(4)*CC(1124)	FD150140
1717	C	FD150150
1718	C *BASIC TOTAL SCALING FACTOR = (MCAP + MF/SYS)/MCAP(8)*	FD150160
1719	120 CC(1122) = CC(1124) + CC(1126)	FD150170
1720	CC(1120) = CC(1122)/CC(1119)	FD150180
1721	C	FD150190
1722	C *DESIGN HEIGHT FACTOR = (MCAP + MF/SYS)/MCAP + MF/SYS	FD150200
1723	CC(1123) = CC(1125) + CC(1126)	FD150210
1724	CC(1121) = CC(1123)/CC(1122)	FD150220
1725	C	FD150230
1726	C *SCALE DATA TO FINAL CAPACITY = F/SYS*	FD150240
1727	DO 121 I=1,100	FD150250
1728	TCS(I) = CC(1120)*TCS(I)	FD150260
1729	121 CONTINUE	FD150270
1730	C	FD150280
1731	C *SAVE PRINT DATA*	FD150290
1732	CCF(1) = CC(1114)	FD150300
1733	CCF(1+2) = CC(1115)	FD150310
1734	CCF(1+4) = CC(111)	FD150320
1735	CCF(1+6) = CC(111)	FD150330
1736	CCF(1+14) = CC(1122)	FD150340
1737	CCF(1+16) = CC(1124)	FD150350
1738	CCF(1+18) = CC(1126)	FD150360
1739	CCF(1+20) = TST(3)	FD150370
1740	CCF(1+22) = TST(5)	FD150380
1741	CCF(100) = TCS(100)/TCS(147)	FD150390
1742	CCF(1+12) = TCS(150)/TCS(147) + T(11)	FD150400
1743	CCF(1+8) = CCF(1+12)*COS(13) + CCF(100)*SIN(13)	FD150410
1744	CCF(1+10) = CCF(13) + CCF(1+12)*SIN(13) - CCF(100)*COS(13)	FD150420
1745	C	FD150430
1746	C *SAVE FUEL CELL(1) DATA*	FD150440
1747	122 IF (L - ND(2)) 123,127,127	FD150450
1748	C	FD150460
1749	123 DO 124 I=1,140	FD150470
1750	CF(1111) = TCS(1)	FD150480
1751	124 CONTINUE	FD150490
1752	C	FD150500
1753	DO 1240 I=1,11	FD150510
1754	CCF(1+24) = TST(1+22)*CC(1120)	FD150520
1755	CCF(1+60) = TST(1+11)*CC(1120)	FD150530
1756	CCF(1+57) = CC(111)	FD150540
1757	CCF(1+35) = CC(111)*COS(13)	FD150550
1758	CCF(1+48) = CCF(1+35)*TAN(13) + CCF(100)	FD150560
1759	1240 CONTINUE	FD150570
1760	C	FD150580
1761	DO 125 I=1,33	FD150590
1762	TWT(1) = TCS(1+146)	FD150600
1763	CCF(1+134) = TWT(1)	FD150610
1764	125 CONTINUE	FD150620
1765	C	FD150630
1766	DO 1250 I=1,10	FD150640
1767	C10V(1+50) = TCS(1+200)	FD150650
1768	1250 CONTINUE	FD150660
1769	C	FD150670
1770	DO 126 I=1,13	FD150680
1771	TND(1+374) = CC(111+113)	FD150690
1772	126 CONTINUE	FD150700
1773	C	FD150710
1774	C *VIB, VOB TO T(50,50)*	FD150720

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MINI AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
1775	T(50) = CC(115)		FD151178
1776	T(50) = CC(115)		FD151179
1777	C		FD151180
1778	GO TO 1302		FD151181
1779	C		FD151182
1780	C *FUEL CELL 2 DATA*		FD151183
1781	127 DO 128 I=1,146		FD151184
1782	CF(21(I)) = TCS(I)		FD151185
1783	128 CONTINUE		FD151186
1784	C		FD151187
1785	DO 129 I=1,11		FD151188
1786	CCF(11+79) = TST(1+22)*CC(1120)		FD151189
1787	CCF(11+123) = TST(1+11)*CC(1120)		FD151190
1788	CCF(11+112) = CC(11)		FD151191
1789	CCF(11+90) = CC(11)*COS(13)		FD151192
1790	CCF(11+81) = CCF(11+90)*TAN(13) + CCLD(13)		FD151193
1791	129 CONTINUE		FD151194
1792	C		FD151195
1793	DO 129 I=1,33		FD151196
1794	TWMT(1+33) = TCS(1+146)		FD151197
1795	CCF(11+134) = CCF(11+134) + TWMT(1+33)		FD151198
1796	129 CONTINUE		FD151199
1797	C		FD151200
1798	DO 1290 I=1,10		FD151201
1799	CLOY(1+60) = TCS(1+200)		FD151202
1800	1290 CONTINUE		FD151203
1801	C		FD151204
1802	DO 130 I=1,13		FD151205
1803	TND(1+307) = CC(11+113)		FD151206
1804	130 CONTINUE		FD151207
1805	IF (TND(303)) 1300,1300,1301		FD151208
1806	1300 T(50) = CC(114)		FD151209
1807	1301 T(50) = CC(115)		FD151210
1808	C		FD151211
1809	C		FD151212
1810	C **CHECK FOR DETAIL PRINT ON IP(17)**		FD151213
1811	1302 IF(IP(17))1303,1303,131		FD151214
1812	1303 WRITE (6,900)1		FD151215
1813	900 FORMAT (47H) **FDS SHR. CC ARRAY DATA FOR FUEL CELL 11,		FD151216
1814	+ 3H***,30H,10H** FDS - IP(17) **END CC 1		FD151217
1815	902 FORMAT (1H 14,2E10.0)		FD151218
1816	904 FORMAT (8H TCS)		FD151219
1817	905 FORMAT (8H TST)		FD151220
1818	903 FORMAT (8H TWMT)		FD151221
1819	DO 9030 NI=1,300,5		FD151222
1820	K2 = NI + ND(4)		FD151223
1821	WRITE (6,902)NI,CC(111),11+NI,K2,1)		FD151224
1822	9030 CONTINUE		FD151225
1823	WRITE (6,905)		FD151226
1824	DO 9051 NI=1,50,5		FD151227
1825	K2 = NI + ND(4)		FD151228
1826	WRITE (6,902)NI,(TST(11),11+NI,K2,1)		FD151229
1827	9051 CONTINUE		FD151230
1828	C		FD151231
1829	C *LOOP ON FUEL CELL 2*		FD151232
1830	131 CONTINUE		FD151233
1831	C		FD151234
1832	C **SUM DESIGN FUEL**		FD151235
1833	DO 132 I=1,33		FD151236
1834	TND(1+206) = TND(302)*TWMT(1) + TND(305)*TWMT(1+33)		FD151237
1835	132 CONTINUE		FD151238
1836	C		FD151239
1837	C **DO INITIAL BOX DM EST**		FD151240
1838	C **CALC GEOMETRY AND SAVE FOR FINAL INTEGRATION**		FD151241
1839	C **CHECK DM ID FOR INITIAL DATA CALC**		FD151242
1840	150 DO 151 N=1,11		FD151243
1841	CC(1N) = TG(1N)		FD151244
1842	TT(1) = TG(1N+11)		FD151245
1843	TT(2) = TG(1N+22)		FD151246
1844	C		FD151247
1845	IF(N - 1)9501,9501,9505		FD151248

06/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MINING AND EMPLOYMENT MODULE -
CARD NO	****	CONTENTS	****
1046	9501 IF (IP(15)) 9502, 9502, 9505		
1047	9502 WRITE(6, 9503)		
1048	9503 FORMAT(1M1, 99H, 50H) C TOT2 (CALLED FROM FDIS - LOOP 151) - IP(15)		
1049	****		
1050	C		
1051	9505 CALL CTOT2		
1052	CC(1N+11) = (YC(21) - YC(20))/COS(13)	FD152090	
1053	CC(1N+22) = YC(27)	FD152100	
1054	CC(1N+33) = YC(13)	FD152110	
1055	CC(1N+44) = YC(20)	FD152120	
1056	CC(1N+55) = YC(15)	FD152130	
1057	CC(1N+66) = YC(22)	FD152140	
1058	TS(1N) = YC(10)	FD152141	
1059	CC(1N+126) = TSD(1N)	FD152145	
1060	151 CONTINUE	FD152150	
1061	DO 152 I=1, 77	FD152160	
1062	TBA(1+42) = CC(11)	FD152170	
1063	152 CONTINUE	FD152175	
1064	C	FD152178	
1065	C ***SETUP DELTA STRUCT MT FOR COL***	FD152179	
1066	DO 1529 I=1, 8	FD152180	
1067	CC(11+105) = TND(1+9)	FD152181	
1068	IF (CC(11+105)) 1520, 1529, 1520	FD152182	
1069	1520 IF (ND(6) - 1) 1521, 1521, 1522	FD152183	
1070	1521 CC(120) = TND(61)	FD152184	
1071	CC(1200) = TND(63)	FD152205	
1072	CC(1217) = TND(64)	FD152208	
1073	CC(1225) = TND(65)	FD152207	
1074	GO TO 1523	FD152208	
1075	C	FD152209	
1076	1522 N = 1ND(12) - ND(11)	FD152190	
1077	CC(11+193) = CCOL(1N+7)	FD152191	
1078	CC(11+201) = CCOL(1N+8) + CCOL(1N+2)	FD152192	
1079	CC(11+209) = CCOL(1N+1)	FD152193	
1080	CC(11+217) = DC(3)	FD152194	
1081	C	FD152195	
1082	C *CALC LOCAL DEPTH DATA*	FD152196	
1083	1523 N = ND(1)	FD152197	
1084	IF (TG(1) - CC(11+209)) 1524, 1527, 1527	FD152198	
1085	1524 N = ND(10)	FD152200	
1086	1525 IF (CC(11+209) - TG(10)) 1526, 1527, 1527	FD152201	
1087	1526 N = N - ND(1)	FD152202	
1088	IF (N - ND(1)) 1527, 1527, 1525	FD152203	
1089	C	FD152204	
1090	1527 CC(11+225) = (TND(1N+1) - TND(1N+1))/(TG(1N+1) - TG(1N+1)) * (CC(11+209) - TG(1N+1))	FD152205	
1091	CC(11+225) = CC(11+225) * CC(11+225) * CC(11+105) * TND(1N+1)	FD152206	
1092	1529 CONTINUE	FD152207	
1093	C	FD152208	
1094	CC(100) = DC(13)	FD152209	
1095	CC(100) = DINT(11)	FD152210	
1096	CC(110) = DINT(17)	FD152220	
1097	CC(100) = DINT(14)	FD152230	
1098	CC(1102) = DINT(110)	FD152240	
1099	DO 153 I=1, 5	FD152250	
1100	TBA(1+110) = CC(11+87)	FD152260	
1101	153 CONTINUE	FD152270	
1102	DO 1530 I=1, 11	FD152275	
1103	TBA(1+124) = CC(11+126)	FD152276	
1104	1530 CONTINUE	FD152277	
1105	C	FD152278	
1106	C *CLEAR TCS ARRAY*	FD152280	
1107	DO 154 I=1, 250	FD152290	
1108	TCS(1) = DC(13)	FD152300	
1109	154 CONTINUE	FD152310	
1110	C	FD152320	
1111	C	FD152321	
1112	C *CHECK FOR INPUT BOX MT/IN*	FD152322	
1113	155 IF (OTBZ1) 1502, 1502, 1500	FD152323	
1114	C	FD152323	
1115	C *INPUT*	FD152324	
1116	1500 DO 1501 I=1, 11	FD152325	

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1017	CC(1+102) = DT02(1+11)		FD152326
1018	TST(1+11) = DT02(1)		FD152327
1019	1001 CONTINUE		FD152328
1020	GO TO 1050		FD152329
1021	C		FD152330
1022	1502 TCS(100) = DXD40		FD152331
1023	IF (DXD40) 150,156,157		FD152340
1024	150 TCS(100) = 0.075		FD152350
1025	GO TO 150		FD152360
1026	157 IF (DXD40 - D(1)) 150,150,150		FD152370
1027	150 TCS(100) = TCS(100)+DXD40		FD152380
1028	150 TMD(2) = TCS(100) - TMD(3) - TMD(4) - TMD(5) - TMD(6)		FD152390
1029	IF (TMD(2) - TCS(100)+0.40) 160,161,161		FD152400
1030	160 TMD(2) = TCS(100)+0.40		FD152410
1031	161 TMD(1) = TMD(2) + TMD(3) + TMD(4) + TMD(5) + TMD(6)		FD152415
1032	C		FD152420
1033	C *ABSOLUTE BOX DISTRIBUTION = FIM*D+C(AERO) + D)		FD152430
1034	102 TST(23) = CC(3)		FD152440
1035	DO 104 N=1,11		FD152450
1036	TST(N+11) = CC(1N+22)+TMD(N) + TST(N) + TMD(N)/D(10)/D(10)		FD152455
1037	IF (TMD(1) - N) 163,104,104		FD152460
1038	103 TST(N+22) = (TST(N+10)+TST(N+11)+CC(1N)-CC(1N-1))/D(2)		FD152470
1039	TST(23) = TST(23) + TST(N+22)		FD152480
1040	104 CONTINUE		FD152490
1041	C		FD152499
1042	TST(34) = TMD(2)/TST(23)		FD152500
1043	DO 105 I=1,11		FD152510
1044	TST(1+11) = TST(1+11)+TST(34)		FD152520
1045	TST(1+22) = TST(1+22)+TST(34)		FD152530
1046	105 CONTINUE		FD152540
1047	C		FD152550
1048	C *CALC V,M,T**		FD152560
1049	1050 TST(42) = TAMB - COTEA		FD152570
1050	IF (CC(1201) - T0(22)) 1051,1052,1052		FD152571
1051	1051 CC(1103) = CC(1103) + CC(1103)		FD152572
1052	GO TO 1053		FD152573
1053	1052 CC(1113) = CC(1113) + CC(1103)		FD152574
1054	1053 TCS(157) = CC(1113)		FD152575
1055	TCS(170) = TCS(157)+CC(122) - CC(133)/D(2)		FD152576
1056	C		FD152578
1057	DO 100 N=1,10		FD152580
1058	K = MD(11) - N		FD152590
1059	TST(35) = CC(1K+1) - CC(1K)		FD152600
1060	TST(36) = TST(K+12)/TST(K+11)		FD152610
1061	TST(37) = TST(35)/D(2)+TST(K+12) + TST(K+11)		FD152620
1062	TST(38) = TST(35)+D(1) + D(2)+TST(36)/(D(3) + D(3)+TST(36))		FD152630
1063	TST(39) = (TST(38) + CC(1K))*COS(13)		FD152640
1064	TST(40) = TST(39)+TAMD(3) + CCL0(3)		FD152650
1065	TST(41) = TST(39)		FD152660
1066	IF (TAMD(3)) 166,167,166		FD152670
1067	106 TST(41) = (TST(40) - COTEA+TST(39) - CCL5)/TST(42)		FD152680
1068	167 TST(43) = (TST(40) - TST(41)+TAMB - CCL5)/COS(13)		FD152690
1069	TCS(K+140) = TCS(K+147) + TST(37) + CC(1K+102)		FD152700
1070	TCS(K+157) = TCS(K+150) + TCS(K+147)+TST(35) + TST(37)+TST(38)		FD152710
1071	TCS(K+100) = TCS(K+100) + TST(37)+TST(43) + CC(1K+102)+CC(1K+11)		FD152720
1072	I = CC(1K+22)/D(2)		FD152731
1073	100 CONTINUE		FD152730
1074	C		FD152740
1075	C ***V,M,T FOR DELTA STRUCT MT DUE TO CCL***		FD152750
1076	C *INCL. DELTA T-BOX COEFF. ON WHT ONLY*		FD152751
1077	DO 173 N=1,11		FD152760
1078	K = MD(12) - N		FD152765
1079	DO 170 I=1,7		FD152770
1080	IF (TMD(1+9)) 172,172,100		FD152780
1081	100 TST(44) = CC(1+200) - TC(1K)		FD152790
1082	TST(45) = DLTBK*CC(1+105)		FD152795
1083	IF (TST(44)) 170,171,170		FD152800
1084	170 TMD(K+30) = TMD(K+30) + TST(44)+TST(45)		FD152810
1085	171 TMD(K+27) = TMD(K+27) + TST(45)		FD152820
1086	TMD(K+49) = TMD(K+49) + CC(1+217)+TST(45)		FD152830
1087	172 CONTINUE		FD152840

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1000	IF (TND(2) - N) 1700,1700,173		FD152045
1000	1700 TND(K+17) = (TND(K+27) - TND(K+20))/DLTBN		FD152046
1000	173 CONTINUE		FD152050
1001	TND(27) = TND(27) + TND(30)/DLTBN		FD152055
1002	C		FD152060
1003	100 TND(2) = TCS(147) - TND(6)		FD152070
1004	C		FD152080
1005	C **BOX MT/IN DATA**		FD152081
1006	DO 1000 I=1,11		FD152082
1007	TND(I+205) = TST(I+11)		FD152083
1008	1000 CONTINUE		FD152084
1009	C		FD152088
2000	C **BOX PNL MT DATA. INCL CONC MTS**		FD152089
2001	DO 1001 I=1,10		FD152090
2002	TND(I+05) = TCS(1+146) - TCS(1+147)		FD152091
2003	1001 CONTINUE		FD152095
2004	C		FD152098
2005	C **SAVE V,N,T**		FD152099
2006	DO 101 I=1,33		FD152100
2007	TND(I+120) = TCS(1+146)		FD152101
2008	101 CONTINUE		FD152103
2009	C		FD152104
2010	C *SUM I=6 V,N,T. TB, MISC, LE, TE, DEL MT/CDL*		FD152150
2011	DO 102 I=1,11		FD152160
2012	TND(I+05) = TND(1+120) + TND(1+233) + TND(1+162) + TND(1+188) + TND(1+198)		FD152170
2013	10(I+27)		FD152171
2014	TND(1+06) = TND(1+130) + TND(1+244) + TND(1+174) + TND(1+210) + TND(1+218)		FD152180
2015	1ND(1+30)		FD152181
2016	TND(1+117) = TND(1+150) + TND(1+255) + TND(1+186) + TND(1+222) + TND(1+222)		FD152190
2017	1ND(1+40)		FD152191
2018	102 CONTINUE		FD153000
2019	C		FD153010
2020	C **CHECK PRINT OF TBOX DETAILS IP(17)***		FD153020
2021	IF (IP(17)) 103,103,104		
2022	103 WRITE (6,9010)		FD153040
2023	9010 FORMAT (60H) **FDIS SUBR. BOX AND STRUCT DATA--CC1,PCS,TST ARRAYS		FD153050
2024	1YS***,3IX,10H** FDIS - (P(17) **/BND CC1)		
2025	DO 9031 NI=1,300,5		
2026	K2 = NI + ND(4)		
2027	WRITE (6,9021NI,1CC(11),11=NI,K2,1)		
2028	9031 CONTINUE		
2029	WRITE (6,904)		
2030	DO 9040 NI=1,250,5		
2031	K2 = NI + ND(4)		
2032	WRITE (6,9021NI,1TCS(11),11=NI,K2,1)		
2033	9040 CONTINUE		
2034	WRITE (6,905)		
2035	DO 9050 NI=1,50,5		
2036	K2 = NI + ND(4)		
2037	WRITE (6,9021NI,1TST(11),11=NI,K2,1)		
2038	9050 CONTINUE		
2039	C		FD153210
2040	C **CHECK FOR TND, TWNT SUPPLIES. IP(17)***		FD153220
2041	104 IF (IP(17)) 105,105,1000		FD153230
2042	105 WRITE (6,106)		FD153240
2043	106 FORMAT (40H) **FDIS SUBR. TND AND TWNT ARRAY DATA**4BX,		
2044	* 10H** FDIS - (P(17) **/BND TND)		
2045	DO 9070 NI=1,400,5		
2046	K2 = NI + ND(4)		
2047	WRITE (6,9021NI,1TND(11),11=NI,K2,1)		
2048	9070 CONTINUE		
2049	WRITE (6,908)		
2050	DO 9080 NI=1,250,5		
2051	K2 = NI + ND(4)		
2052	WRITE (6,9021NI,1TWNT(11),11=NI,K2,1)		
2053	9080 CONTINUE		
2054	C		FD153350
2055	C **PRINT FUEL SUPPLY TABLE**		FD153360
2056	C *PRINT ON IP 10*		FD153361
2057	C **TEST FOR NO FUEL**		FD153362
2058	1000 IF (TWNT(1) + TWNT(3)) 200,200,1000		FD153365

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05/10/74      INPUT LISTING      AUTOFLOW CHART SET - SHEEP      WING AND EMPENNAGE MODULE -

CARD NO      ****      CONTENTS      ****

2050      1000 IF (IP110) 107,107,200
2060      107 WRITE (6,1070) INCREASE      FD153300
2081      1070 FORMAT (0H) CASE 14, 12X, 30H***WING FUEL DISTRIBUTION SUMMARY***, FD153300
2082      1 31X,10H** FD15 - (P110) ****
2083      2 70H CELL Y10(BP) Y00(BP) Y10(ST) Y00(ST) FD153400
2084      3YC0(BP) X00(FS) Y00(ST) FD153410
2085      C      FD153420
2086      100 FORMAT (40H) **FUEL HEIGHTS-LB/SIDE**,/50H CCFD153430
2087      ALL TOTAL CAPACITY FUEL/SYS RND(FL) RND(FL) FD153440
2088      C      FD153450
2089      100 FORMAT (1H 3X,11,1X,7F10.2) FD153460
2090      100 FORMAT (1H 3X,11,1X,2F10.1,F0.1,F11.4,F0.1) FD153470
2091      C      FD153480
2092      101 FORMAT(40H) **FUEL CELL DISTRIBUTIONS**,/50H *FD153490
2093      IPANEL HEIGHTS-LB/SIDE* **FUEL CELL STATION AND *FD153500
2094      HEIGHT/MCH DATA*,/50H CELFD153510
2095      3L 1. CELL 2. /100H CELL FD153520
2096      4) CELL 2 SECT Y10(BP) X1(FS) Y10(ST) LB/IN SECT Y10(BP) FD153530
2097      5) X1(FS) Y10(ST) LB/IN ) FD153540
2098      C      FD153550
2099      102 FORMAT (0H TOTAL, F0.1,F0.1,4X,12,F0.2,F10.2,F0.3,4X,12,F0.2,FFD153560
2100      110.2,F0.2,F0.3) FD153570
2101      103 FORMAT (1H 13,F10.1,F0.1,4X,12,F0.2,F10.2,F0.2,F0.3,4X,12,F0.2,F10D153580
2102      1.2,F0.2,F0.3) FD153590
2103      C      FD153600
2104      104 FORMAT ( 0H) **TOTAL FUEL PLUS FLD153610
2105      DEL **STEM 1-6 LOADS**,/50H **TOTAL* FD153620
2106      C **FUEL CELL 1* **FUEL CELL 2* /100H SFD153630
2107      STA SHEAR B. MOM T. MOM SHEAR B. MOM T. MOM FD153640
2108      MOM SHEAR B. MOM T. MOM) FD153650
2109      105 FORMAT (1H 13,F11.1,F12.1,F11.1,3X,F0.1,F11.1,F10.1,3X,F0.1,F11.1,FD153660
2110      IF10.1) FD153670
2111      C      FD153680
2112      C      FD153690
2113      C **PRINT BLOCK 1** FD153700
2114      WRITE (6,100)ND(1),CCF(1),CCF(3),CCF(5),CCF(7),CCF(9),CCF(11),CCF(13)FD153710
2115      113),ND(2),CCF(2),CCF(4),CCF(6),CCF(8),CCF(10),CCF(12),CCF(14) FD153715
2116      C      FD153720
2117      C **BLOCK 2** FD153730
2118      WRITE (6,100) FD153740
2119      WRITE (6,100)ND(1),CCF(15),CCF(17),CCF(19),CCF(21),CCF(23),ND(2),CFD153750
2120      1CF(16),CCF(18),CCF(20),CCF(22),CCF(24) FD153755
2121      C      FD153760
2122      C **BLOCK 3** FD153770
2123      WRITE (6,101) FD153775
2124      WRITE (6,101)CCF(25),CCF(27),ND(1),CCF(30),CCF(32),CCF(34),CCF(36)FD153780
2125      1,ND(1),CCF(10),CCF(102),CCF(113),CCF(124) FD153785
2126      DO 106 N=1,10 FD153800
2127      K = N + ND(1) FD153810
2128      WRITE (6,103)N,CCF(N+25),CCF(N+80),K,CCF(N+36),CCF(N+47),CCF(N+50)FD153820
2129      1,CCF(N+60),K,CCF(N+91),CCF(N+102),CCF(N+113),CCF(N+124) FD153830
2130      106 CONTINUE FD153840
2131      C      FD153850
2132      C **BLOCK 4* FD153860
2133      WRITE (6,104) FD153870
2134      DO 107 N=1,11 FD153880
2135      WRITE (6,105)N,CCF(N+134),CCF(N+ 5),CCF(N+156),TWNT(N),TWNT(N+1)FD153890
2136      1,TWNT(N+22),TWNT(N+33),TWNT(N+44),TWNT(N+55) FD153900
2137      107 CONTINUE FD153910
2138      C      FD153920
2139      C      FD153930
2140      200 RETURN FD153940
2141      END FD153950
2142      C*****
2143      C *****SUBROUTINE TBFN1*****
2144      C **FUEL/TORQUE-BOX HEIGHT INTEGRATION**
2145      C
2146      C*****
2147      C
2148      C
2149      SUBROUTINE TBFN1
      TBFN010

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06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2130	C	***SAVE AS SUBR TOR11 IN OVERLAY (17,0)***	TOR10011
2131	C		TOR10011
2132	C		TOR10020
2133	C	***TORQUE BOX AND FULL MOUNT/INERTIA INTEGRATION SUBR***	TOR10030
2134	C	*1. ID= 1 OR 3 INTEGRATE FOR CO REF TO MT SYS., CO AND	TOR10040
2135	C	INERTIA REF TO FLUTTER STRUCT. STRIPS AND LOADS	TOR10050
2136	C	AERO STRIPS. MT/FLUTTER=11 CO PTS. LOADS=10 CO PTS.	TOR10060
2137	C	2. ID= 0 OR 2 INTEGRATE ONLY FOR CO REF TO MT SYS.	TOR10070
2138	C		TOR10080
2139		COMMON 1	TOR10090
2140		COMMON /PRINT/ IP(00)	TOR10091
2141	C		TOR10100
2142		DIMENSION T(620),D(200),CD(200),ND(100),DC(100),	TOR10110
2143		ITG(370),TNG(400),YC(160),TT(24),TST(50),TOR(100),	TOR10111
2144		CC(1300),TCS(250),TGA(135),	TOR10112
2145		BSIND(6),COSO(6)	TOR10119
2146	C		TOR10120
2147		EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)),	TOR10130
2148		(DC(1),D(1401)),(ITG(1),T(1001)),(TNG(1),T(1301)),(TST(1),T(1701)),	TOR10131
2149		2(TOR(1),T(1751)),(YC(1),T(351)),(TT(1),T(411)),(TGA(1),T(1051)),	TOR10132
2150		3(CC(1),CD(1051)),(TCS(1),CD(1401)),	TOR10133
2151		4(SIND(1),T(1401)),(COSO(1),T(1401)),	TOR10134
2152		6(I,ND(26)),/N,ND(27)),(L,ND(28)),(K,ND(29)),(NS,ND(30)),	TOR10136
2153		9(MA,ND(31)),(ND,ND(32))	TOR10138
2154	C		TOR10140
2155	C	*CLEAR INTEGRATION SCRATCH TOR*	TOR10150
2156		100 DO 101 I=1,100	TOR10160
2157		TOR(I) = DC(I)	TOR10170
2158		101 CONTINUE	TOR10171
2159	C		TOR10172
2160	C	*10 PANEL INTEGRATION. ALL DATA IN CC*	TOR10173
2161		DO 150 N=1,10	TOR10174
2162		TOR(25) = CC(N+1) - CC(N)	TOR10175
2163		TOR(1) = TOR(25)/CC(100)	TOR10176
2164		IF (TOR(1) - CC(1100)) 102,103,103	TOR10177
2165		102 TOR(35) = INT(TOR(25)/CC(100))	TOR10178
2166		IF (TOR(35) - D(4)) 1020,1021,1021	TOR10179
2167		1020 TOR(35) = D(4)	TOR10180
2168		1021 TOR(1) = TOR(35)/TOR(35)	TOR10185
2169		103 TOR(35) = TOR(35)/TOR(1)	TOR10186
2170		TOR(2) = CC(N) - TOR(1)	TOR10190
2171		TOR(3) = CC(N)	TOR10200
2172		TOR(4) = CC(N) - TOR(1)/D(2)	TOR10210
2173		TOR(12) = (CC(N+23) - CC(N+22))/TOR(35)	TOR10220
2174		TOR(6) = CC(N+22) - TOR(12)/D(2)	TOR10230
2175		TOR(13) = (CC(N+12) - CC(N+11))/TOR(35)	TOR10240
2176		TOR(7) = CC(N+11) - TOR(13)/D(2)	TOR10250
2177		TOR(5) = TOR(7) - TOR(6)	TOR10260
2178		TOR(19) = TOR(7) - TOR(6)/D(2)	TOR10270
2179	C		TOR10270
2180	C	*AERO COARD DATA*	TOR10280
2181		TOR(14) = (CC(N+4) - CC(N+3))/TOR(35)	TOR10290
2182		TOR(15) = (CC(N+5) - CC(N+4))/TOR(35)	TOR10300
2183		TOR(16) = (CC(N+6) - CC(N+5))/TOR(35)	TOR10310
2184		TOR(17) = (CC(N+7) - CC(N+6))/TOR(35)	TOR10320
2185		TOR(8) = CC(N+33) - TOR(14)/D(2)	TOR10330
2186		TOR(9) = CC(N+44) - TOR(15)/D(2)	TOR10340
2187		TOR(18) = CC(N+55) - TOR(16)/D(2)	TOR10350
2188		TOR(11) = CC(N+66) - TOR(17)/D(2)	TOR10360
2189		TOR(45) = TOR(11)/TOR(1)/D(12)	TOR10370
2190	C		TOR10371
2191	C	*DEPTH	TOR10371
2192		TOR(36) = (CC(N+127) - CC(N+126))/TOR(35)	TOR10372
2193		TOR(29) = CC(N+126) - TOR(36)/D(2)	TOR10373
2194	C		TOR10380
2195	C	*DELTA Y(LAND) STRIP LOOP*	TOR10380
2196		110 DO 111 I=1,3	TOR10400
2197		TOR(10) = TOR(10) + TOR(1)	TOR10410
2198		111 CONTINUE	TOR10420
2199		DO 112 I=1,6	TOR10430
2200		TOR(105) = TOR(105) + TOR(101)	TOR10440

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
2001	112 CONTINUE		TBF14070
2002	TOR(5) = TOR(7) - TOR(6)		TBF14070
2003	TOR(19) = TOR(7) - TOR(6)/D(2)		TBF14070
2004	TOR(20) = TOR(20) + TOR(30)		TBF14071
2005	TOR(31) = TOR(20)*TOR(20)/CC(1130)		TBF14072
2006	C		TBF14070
2007	C *STRIP HEIGHT=Z(VCP)*		TBF14070
2008	TOR(18) = TOR(3)*CC(11477) + CC(11487)		TBF14070
2009	TOR(21) = TOR(18)*TOR(11)		TBF14070
2010	TOR(23) = TOR(21)*TOR(19)		TBF14070
2011	C		TBF14070
2012	C *HEIGHT STRIP TEST. TEST 10 FOR BOX OR FUEL		TBF14070
2013	C *0=BOX MT.CO ONLY. 2=FUEL MT.CO ONLY. 1,3=ALL*		TBF14070
2014	IF (CC(1180) - D(1)) 113,113,110		TBF14070
2015	C		TBF14070
2016	C *BOX DATA. REF STATION INDEX=M*		TBF14070
2017	113 TOR(24) = TOR(4) - TO(4)		TBF14070
2018	TOR(22) = TOR(21)*TOR(24)		TBF14070
2019	TCS(14) = TCS(14) + TOR(21)		TBF14070
2020	TCS(14) = TCS(14) + TOR(22)		TBF14070
2021	TCS(14) = TCS(14) + TOR(23)		TBF14070
2022	IF (CC(1180)) 124,124,114		TBF14070
2023	C		TBF14070
2024	C *DO STRUCT INT. AND ACRO. FOR BOX DATA*		TBF14070
2025	114 I = MD(1)		TBF14070
2026	IF (TO(14) - TOR(4)) 115,115,110		TBF14070
2027	115 I = MD(2)		TBF14070
2028	116 NS = N + I - MD(1)		TBF14070
2029	C		TBF14070
2030	1160 TOR(32) = TOR(21)*TOR(31)		TBF14070
2031	TOR(27) = TOR(21)*TOR(6)/D(12)*TOR(6) + TOR(32)		TBF14070
2032	TOR(28) = TOR(21)*TOR(45) + TOR(32)		TBF14070
2033	TOR(25) = TOR(4) - TO(45)		TBF14070
2034	TOR(26) = TOR(25)*TOR(21)		TBF14070
2035	TCS(15) = TCS(15) + TOR(21)		TBF14070
2036	TCS(15) = TCS(15) + TOR(26)		TBF14070
2037	TCS(15) = TCS(15) + TOR(23)		TBF14070
2038	TCS(15) = TCS(15) + TOR(23)*TOR(19) + (127/27)		TBF14070
2039	TCS(15) = TCS(15) + TOR(26)*TOR(25) + TOR(21)		TBF14070
2040	C		TBF14070
2041	C *ACRO INTEGRATION. SETUP FOR GRID ALONG STRIP.**		TBF14070
2042	C *SET MD=1 FOR RETURN TO LOOP*		TBF14070
2043	MD = MD(1)		TBF14070
2044	1160 TOR(40) = TOR(6)/CC(1101)		TBF14070
2045	IF (TOR(40) - CC(1102)) 117,110,110		TBF14070
2046	117 TOR(30) = (INT(TOR(6)/CC(1102)))		TBF14070
2047	IF (TOR(30) - D(4)) 1170,1171,1171		TBF14070
2048	1170 TOR(30) = D(4)		TBF14070
2049	1171 TOR(40) = TOR(6)/TOR(30)		TBF14070
2050	118 TOR(30) = TOR(6)/TOR(40)		TBF14070
2051	TOR(46) = TOR(40)*TOR(46)/D(12)		TBF14070
2052	TOR(51) = TOR(21)*TOR(30)		TBF14070
2053	TOR(56) = TOR(51)*TOR(31)		TBF14070
2054	TOR(47) = TOR(51)*TOR(46) + TOR(56)		TBF14070
2055	TOR(48) = TOR(51)*TOR(45) + TOR(56)		TBF14070
2056	TOR(49) = TOR(47)*COS(13) + TOR(48)*SIN(13)		TBF14070
2057	TOR(50) = TOR(48)*COS(13) + TOR(47)*SIN(13)		TBF14070
2058	TOR(61) = TOR(51)*TOR(45) + TOR(46)		TBF14070
2059	TOR(41) = (TOR(10) - TOR(6))/TOR(30)		TBF14070
2060	TOR(42) = (TOR(11) - TOR(9))/TOR(30)		TBF14070
2061	TOR(43) = TOR(6) - TOR(41)/D(2)		TBF14070
2062	TOR(44) = TOR(6) - TOR(42)/D(2)		TBF14070
2063	C		TBF14070
2064	C *GRID LOOP**		TBF14070
2065	118 TOR(43) = TOR(43) + TOR(41)		TBF14070
2066	TOR(44) = TOR(44) + TOR(42)		TBF14070
2067	C		TBF14070
2068	C *SEARCH FOR ACRO CO INDEX**		TBF14070
2069	NA = MD(1)		TBF14070
2070	120 IF (TO(NA) - TOR(43)) 121,122,122		TBF14070
2071	121 NA = NA + MD(1)		TBF14070

06/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP

WING AND EXHIBIT MODULE -

CARD NO	CONTENTS	****
2672	IF (ND(10) - NA) 122,122,120	TBFM1020
2673	122 TOR(9) = TOR(4) - TGA(NA+22)	TBFM1030
2674	TOR(9) = TGA(NA+32) - TOR(44)	TBFM1040
2675	TOR(52) = TOR(9)*TOR(51)	TBFM1050
2676	TOR(53) = TOR(9)*TOR(51)	TBFM1060
2677	TCS(NA+91) = TCS(NA+91) + TOR(51)	TBFM1070
2678	TCS(NA+102) = TCS(NA+102) + TOR(52)	TBFM1080
2679	TCS(NA+113) = TCS(NA+113) + TOR(53)	TBFM1090
2680	TCS(NA+124) = TCS(NA+124) + TOR(53)*TOR(9) + TOR(40)	TBFM1100
2681	TCS(NA+135) = TCS(NA+135) + TOR(52)*TOR(9) + TOR(50)	TBFM1110
2682	TCS(NA+200) = TCS(NA+200) + TOR(53)*TOR(9) + TOR(52)*TOR(9) + TGTBFM1115	TBFM1115
2683	IR(61)	TBFM1116
2684	C	TBFM1119
2685	C *TEST FOR END OF STRIP*	TBFM1120
2686	IF (TOR(11) - TOR(44) - TOR(21) 123,123,119	TBFM1130
2687	C	TBFM1130
2688	C *TEST FOR RETURN*	TBFM1140
2689	123 IF (ND - ND(21) 124,145,150	TBFM1150
2690	C	TBFM1150
2691	C *STRIP LOOP TEST*	TBFM1160
2692	124 IF (CC(100) - TOR(4) - TOR(11) 125,110,110	TBFM1170
2693	C	TBFM1170
2694	C *END OF PANEL. TEST FOR CONC. MTS. INED/ORD. T.OOK ONLY*	TBFM1180
2695	C *ND= 2 OR 3 FOR RETURN FROM GRID INTEG. ID=1 OR 3	TBFM1190
2696	125 IF (CC(100) - D(11) 140,140,150	TBFM1200
2697	C	TBFM1210
2698	C *FUEL DATA*	TBFM1220
2699	C *SEARCH FOR HEIGHT STATION*	TBFM1230
2700	C	TBFM1230
2701	130 NS = ND(1)	TBFM1240
2702	131 IF (TO(NG+1) - TOR(41) 132,133,133	TBFM1250
2703	132 NS = NS + ND(1)	TBFM1260
2704	IF (ND(10) - NS) 133,133,131	TBFM1270
2705	133 TOR(24) = TOR(4) - TO(NG)	TBFM1280
2706	TOR(22) = TOR(21)*TOR(24)	TBFM1290
2707	TCS(NG+1) = TCS(NG+1) + TOR(21)	TBFM1300
2708	TCS(NG+13) = TCS(NG+13) + TOR(22)	TBFM1310
2709	TCS(NG+25) = TCS(NG+25) + TOR(23)	TBFM1320
2710	IF (D(2) - CC(100)) 134,134,124	TBFM1330
2711	C	TBFM1330
2712	C *FIND PROPER FLUTTER STRIP*	TBFM1340
2713	134 IF (TO(NG+45) - TOR(41) 135,135,1100	TBFM1350
2714	135 NS = NS+ND(1)	TBFM1360
2715	GO TO 1160	TBFM1370
2716	C	TBFM1380
2717	C *CONC. CHORD HEIGHTS. DO HEIGHT INTEG. AND TEST FOR V*	TBFM1390
2718	C *ROOT AND TIP=1.04MT. STA 2-10+.5 IS. 5080*	TBFM1400
2719	140 IF (CC(100+102)) 145,145,141	TBFM1410
2720	141 TOR(21) = CC(100+102)	TBFM1420
2721	IF (ND(11) - N) 142,143,143	TBFM1430
2722	142 TOR(21) = TOR(21)/D(2)	TBFM1440
2723	143 TCS(101) = TCS(101) + TOR(21)	TBFM1450
2724	TOR(20) = CC(100+11) - CC(100+22)/D(2)	TBFM1460
2725	TOR(23) = TOR(21)*TOR(20)	TBFM1470
2726	TCS(105) = TCS(105) + TOR(23)	TBFM1480
2727	IF (D(11) - CC(100)) 144,144,145	TBFM1490
2728	C	TBFM1490
2729	C *DO FLUTTER*	TBFM1500
2730	144 TCS(103) = TCS(103) + TOR(21)	TBFM1510
2731	TCS(106) = TCS(106) + TOR(23)	TBFM1520
2732	TOR(31) = CC(100+120)*CC(100+120)	TBFM1530
2733	TCS(108) = TCS(108) + TOR(23)*TOR(20) + TOR(21)*CC(100+22)/D(12)*TBFM1530	TBFM1530
2734	CC(100+22) + TOR(21)*TOR(31)	TBFM1540
2735	TCS(108) = TCS(108) + TOR(21) + TOR(21)/D(12) + TOR(21)*TOR(31)	TBFM1545
2736	C	TBFM1550
2737	C *SETUP GRID DATA AND RETURN ND=2*	TBFM1560
2738	ND = ND(2)	TBFM1570
2739	TOR(45) = D(13)	TBFM1580
2740	TOR(6) = CC(100+22)	TBFM1590
2741	TOR(6) = CC(100+23)	TBFM1600
2742	TOR(6) = CC(100+44)	TBFM1610

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2343	TOR(10) = CC(111)+55)		TOR(10)20
2344	TOR(11) = CC(111)+66)		TOR(11)30
2345	GO TO 1100		TOR(10)40
2346	C		TOR(10)50
2347	C	"COND. MT. OBD STATION"	TOR(10)60
2348	145 IF (CC(111)+103)) 150,150,146		TOR(10)70
2349	146 TOR(21) = CC(111)+103)/D(2)		TOR(10)80
2350	IF (N - ND(9)) 147,147,146		TOR(10)90
2351	147 TOR(21) = TOR(21)/D(2)		TOR(10)00
2352	148 TCS(11) = TCS(11) + TOR(21)		TOR(10)10
2353	TOR(20) = CC(111)+12) - CC(111)+23)/D(2)		TOR(10)20
2354	TOR(23) = TOR(21)+TOR(20)		TOR(10)30
2355	TCS(11)+25) = TCS(11)+25) + TOR(23)		TOR(10)40
2356	IF (D(1) - CC(100)) 148,148,150		TOR(10)50
2357	C		TOR(10)60
2358	C	"OO FLUTTER"	TOR(10)70
2359	149 TCS(11)+37) = TCS(11)+37) + TOR(21)		TOR(10)80
2360	TCS(11)+50) = TCS(11)+50) + TOR(23)		TOR(10)90
2361	TOR(31) = CC(111)+130)+CC(111)+127)+CC(111)+127)		TOR(10)00
2362	TCS(11)+70) = TCS(11)+70) + TOR(23)+TOR(20) + TOR(21)+CC(111)+23)/D(2)+TOR(10)70		TOR(10)10
2363	CC(111)+23) + TOR(31)+TOR(21)		TOR(10)20
2364	TCS(11)+81) = TCS(11)+81) + TOR(21) + TOR(21)/D(12) + TOR(21)+TOR(31)		TOR(10)30
2365	C		TOR(10)40
2366	C	"GRID INTEG. DATA, OBD CHORD"	TOR(10)50
2367	ND = ND(3)		TOR(10)60
2368	TOR(145) = DC(3)		TOR(10)70
2369	TOR(8) = CC(111)+23)		TOR(10)80
2370	TOR(8) = CC(111)+34)		TOR(10)90
2371	TOR(8) = CC(111)+45)		TOR(10)00
2372	TOR(10) = CC(111)+56)		TOR(10)10
2373	TOR(11) = CC(111)+67)		TOR(10)20
2374	GO TO 1100		TOR(10)30
2375	C		TOR(10)40
2376	C	"LOOP NEXT PANEL(N)"	TOR(10)50
2377	150 CONTINUE		TOR(10)60
2378	C		TOR(10)70
2379	C		TOR(10)80
2380	C	"DELTA MT DUE TO COL"	TOR(10)90
2381	IF (CC(111)+100) - D(1)) 151,151,170		TOR(10)00
2382	151 DO 104 1=1,7		TOR(10)10
2383	IF (CC(111)+105)) 152,104,152		TOR(10)20
2384	152 N = ND(11)		TOR(10)30
2385	153 IF (CC(111)+200) - T0(N)) 154,155,155		TOR(10)40
2386	154 N = N - ND(11)		TOR(10)50
2387	IF (N - ND(11)) 155,155,153		TOR(10)60
2388	155 TCS(11)+1) = TCS(11)+1) + CC(111)+105)		TOR(10)70
2389	TCS(11)+13) = TCS(11)+13) + CC(111)+105)+CC(111)+200) - T0(N))		TOR(10)80
2390	TCS(11)+25) = TCS(11)+25) + CC(111)+105)+CC(111)+217)		TOR(10)90
2391	156 IF (D(1) - CC(100)) 157,157,104		TOR(10)00
2392	C		TOR(10)10
2393	C	"FLUTTER"	TOR(10)20
2394	157 NS = N		TOR(10)30
2395	IF (T0(N)+45) - CC(111)+200)) 158,100,100		TOR(10)40
2396	158 IF (N - ND(11)) 159,100,100		TOR(10)50
2397	159 NS = N - ND(11)		TOR(10)60
2398	160 TOR(57) = CC(111)+200) - T0(NS)		TOR(10)70
2399	TOR(50) = TOR(57)+CC(111)+105)		TOR(10)80
2400	TOR(50) = CC(111)+105)+CC(111)+217)		TOR(10)90
2401	TCS(NS+36) = TCS(NS+36) + CC(111)+105)		TOR(10)00
2402	TCS(NS+47) = TCS(NS+47) + TOR(50)		TOR(10)10
2403	TCS(NS+50) = TCS(NS+50) + TOR(50)		TOR(10)20
2404	TCS(NS+60) = TCS(NS+60) + CC(111)+225) + TOR(50)+CC(111)+217)		TOR(10)30
2405	TCS(NS+60) = TCS(NS+60) + TOR(50)+TOR(57) + CC(111)+225)		TOR(10)40
2406	C		TOR(10)50
2407	C	"FLEX LOADS"	TOR(10)60
2408	N = ND(10)		TOR(10)70
2409	161 IF (CC(111)+103) - T0A(N)) 162,163,163		TOR(10)80
2410	162 N = N - ND(11)		TOR(10)90
2411	IF (N - ND(11)) 163,161,161		TOR(10)00
2412	163 TOR(57) = CC(111)+103) - T0A(N)+22)		TOR(10)10
2413	TOR(50) = CC(111)+105)+TOR(57)		TOR(10)20

06/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP WIND AND EXTERNALS MODULE -

CARD NO	CONTENTS	****
2414	TOR(100) = TGA(100) - CC(11) * 2011	TBF14245
2415	TOR(150) = TOR(100) * CC(11) * 105	TBF14246
2416	TCS(100) = TCS(100) + CC(11) * 105	TBF14247
2417	TCS(100) = TCS(100) + TOR(150)	TBF14248
2418	TCS(100) = TCS(100) + TOR(150)	TBF14249
2419	TCS(100) = TCS(100) + C..(11) * 225 + TOR(100) * TOR(150)	TBF14250
2420	TCS(100) = TCS(100) + TOR(150) * TOR(150) + CC(11) * 225	TBF14251
2421	TCS(100) = TCS(100) + CC(11) * 105 / D(12) + TOR(150) * TOR(150) + TOR(150) * TOR(150)	TBF14252
2422	1100 * TOR(150)	TBF14253
2423	104 CONTINUE	TBF14254
2424	C	TBF14255
2425	C ***TEST FOR HEIGHT SCALING***	TBF14256
2426	C **TCS(100) = 100. IF = 0. SET = SUM(TCS(11-12)) FOR SCALING**	TBF14257
2427	C ***TEST FOR 0.0 MT FOR FLUTTER/FLEX LOADS TOTAL HEIGHTS***	TBF14258
2428	170 DO 171 I=1,11	TBF14259
2429	TCS(100) = TCS(100) + TCS(11)	TBF14260
2430	TCS(100) = TCS(100) + TCS(11)	TBF14261
2431	TCS(100) = TCS(100) + TCS(11)	TBF14262
2432	171 CONTINUE	TBF14263
2433	IF (TCS(100)) 172,172,1720	TBF14264
2434	172 TCS(100) = TCS(100)	TBF14265
2435	1700 TCS(100) = D(11)	TBF14266
2436	IF (TCS(100)) 1702,1702,1701	TBF14267
2437	1701 TCS(100) = TCS(100) / TCS(100)	TBF14268
2438	1702 TCS(100) = D(11)	TBF14269
2439	IF (TCS(100)) 1704,1704,1703	TBF14270
2440	1703 TCS(100) = TCS(100) / TCS(100)	TBF14271
2441	1704 TCS(100) = D(11)	TBF14272
2442	IF (TCS(100)) 1706,1706,1705	TBF14273
2443	1705 TCS(100) = TCS(100) / TCS(100)	TBF14274
2444	C	TBF14275
2445	1700 DO 174 I=1,95	TBF14276
2446	TCS(100) = TCS(100) + TCS(100)	TBF14277
2447	TCS(100) = TCS(100) + TCS(100)	TBF14278
2448	IF (I - 36) 173,173,174	TBF14279
2449	173 TCS(100) = TCS(100) + TCS(100)	TBF14280
2450	174 CONTINUE	TBF14281
2451	DO 1740 I=1,10	TBF14282
2452	TCS(100) = TCS(100) + TCS(100)	TBF14283
2453	1740 CONTINUE	TBF14284
2454	C	TBF14285
2455	C ***CALC V H, T***	TBF14286
2456	175 TCS(100) = TCS(100)	TBF14287
2457	TCS(100) = TCS(100)	TBF14288
2458	TCS(100) = TCS(100)	TBF14289
2459	C	TBF14290
2460	DO 176 N=1,10	TBF14291
2461	I = ND(11) - N	TBF14292
2462	TCS(100) = TCS(100) + TCS(100)	TBF14293
2463	TCS(100) = TCS(100) + TCS(100) + TCS(100) * (TO(11) - TO(11))	TBF14294
2464	TCS(100) = TCS(100) + TCS(100)	TBF14295
2465	176 CONTINUE	TBF14296
2466	C	TBF14297
2467	TCS(100) = TCS(100)	TBF14298
2468	C	TBF14299
2469	C	TBF14300
2470	C ***OK PRINT TEST PP 10***	TBF14301
2471	100 IF (IP(100)) 101,101,100	TBF14302
2472	101 WRITE (6,102)	TBF14303
2473	C	TBF14304
2474	102 FORMAT (7H) ***TBF11 SUBR. FUEL/BOX STRUCT. INTEGRATION DATA ATB14305	TBF14305
2475	I-TCS AND CC1 ARRAYS***,12X,21H** TBF11 - IP(100) **END TCS I	TBF14306
2476	C	TBF14307
2477	105 FORMAT (1H 14,10,10)	TBF14308
2478	C	TBF14309
2479	106 FORMAT (10H CC1)	TBF14310
2480	C	TBF14311
2481	DO 107 M=1,250.5	TBF14312
2482	K = M * ND(11)	TBF14313
2483	WRITE (6,108) M, (TCS(11), I=M, K, 1)	TBF14314
2484	107 CONTINUE	TBF14315

CARD NO	CONTENTS	
2405	C	TF740510
2406	WRITE (6,105)	TF740520
2407	DO 100 N=1,200,5	TF740530
2408	K = N + ND(1)	TF740540
2409	WRITE (6,105)N,(CC(1)),1-N,K,1)	TF740550
2410	100 CONTINUE	TF740560
2411	C	TF740570
2412	C	TF740580
2413	C ***EXIT***	TF740590
2414	100 RETURN	TF740600
2415	END	TF740610
2416	C*****	
2417	C	
2418	C *****SUBROUTINE CTOT2*****	
2419	C **PLATFORM CHORD EVALUATION**	
2420	C	
2501	C*****	
2502	C	
2503	SUBROUTINE CTOT2	CTOT0010
2504	C *****SAME AS SUBR CTOT IN OVERLAY (17,0)*****	CTOT0011
2505	C	CTOT0010
2506	C	CTOT0020
2507	C **BLENDED WING LE/TE INTERPOLATION SUBROUTINE SIMILAR TO CAERO-CTOT0030	
2508	C **INTERPOLATE FOR AERO CHORD AND T/C FOR GIVEN Y(A)**	CTOT0040
2509	C **INTERPOLATE FOR STRUCTURAL CHORD DATA IF X(A) GIVEN**	CTOT0050
2510	C	CTOT0060
2511	COMMON T	CTOT0070
2512	COMMON /PRINT/ IP(80)	CTOT0071
2513	C	CTOT0070
2514	DIMENSION T(6220),D(2000),CD(2000),ND(100),DC(100),	CTOT0080
2515	YC(150),TT(24),YTC(80),	CTOT0081
2516	BTAND(8),CCLD(8),SIND(8),COSD(8)	CTOT0080
2517	C	CTOT0080
2518	EQUIVALENCE (D(1),T(2001)),(CD(1),T(412)),(ND(1),T(612)),	CTOT0100
2519	(YC(1),T(2011)),(TT(1),T(411)),(DC(1),D(401)),(YTC(1),T(351)),	CTOT0101
2520	2(TAND(1),T(122)),(CCLD(1),T(131)),(SIND(1),T(140)),	CTOT0102
2521	3(COSD(1),T(146)),	CTOT0103
2522	9(COTEA,T(152))	CTOT0100
2523	C	CTOT0110
2524	C Y(1)=TT(1), X(1)=TT(2)	CTOT0120
2525	C **CALC AERO DATA AT Y(1)***	CTOT0130
2526	100 DO 101 I=1,5	CTOT0140
2527	YC(I+1) = TT(1)*TAND(I) + CCLD(I)	CTOT0150
2528	101 CONTINUE	CTOT0160
2529	C	CTOT0170
2530	C **INTERPOLATE FOR LE**	CTOT0180
2531	110 I = ND(1)	CTOT0190
2532	111 IF (YC(1+40) - TT(1)) 112,113,113	CTOT0200
2533	112 I = I + ND(1)	CTOT0210
2534	IF (ND(11) - 1) 113,113,111	CTOT0220
2535	113 YC(1) = TT(1)*YC(1+40) + YC(1+75)	CTOT0230
2536	C	CTOT0240
2537	C **INTERPOLATE FOR TE**	CTOT0250
2538	120 I = ND(1)	CTOT0260
2539	121 IF (YC(1+87) - TT(1)) 122,123,123	CTOT0270
2540	122 I = I + ND(1)	CTOT0280
2541	IF (ND(11) - 1) 123,123,121	CTOT0290
2542	123 YC(1) = TT(1)*YC(1+110) + YC(1+121)	CTOT0300
2543	C	CTOT0310
2544	C **AERO CHORDS**	CTOT0320
2545	130 YC(8) = YC(7) - YC(1)	CTOT0330
2546	YC(9) = YC(8) - YC(2)	CTOT0340
2547	YC(10) = YC(9) - YC(3)	CTOT0350
2548	C	CTOT0351
2549	C ***INTERPOLATE FOR DMX AT Y, CALC. T/C = DMX/C(TOTAL)***CTOT0352	
2550	131 I = ND(1)	CTOT0353
2551	132 IF (YC(1+1) - TT(1)) 133,134,134	CTOT0354
2552	133 I = I + ND(1)	CTOT0355
2553	IF (ND(11) - 1) 134,134,132	CTOT0356
2554	134 YC(130) = TT(1)*YC(1+40) + YTC(1+35)	CTOT0357
2555	YC(131) = YC(130)/YC(8)	CTOT0358

CARD NO	CONTENTS	CARD NO	CONTENTS
2556	C	CTOT0360	
2557	C	CTOT0370	
2558	130 IF (TT(2)) 137,170,137	CTOT0380	
2559	137 IF (TAND(3)) 140,130,140	CTOT0390	
2560	130 DO 130 I=1,7	CTOT0400	
2561	YC(I+10) = TT(I)	CTOT0410	
2562	YC(I+17) = YC(I)	CTOT0420	
2563	130 CONTINUE	CTOT0430	
2564	GO TO 160	CTOT0440	
2565	C	CTOT0450	
2566	140 YC(20) = TT(2) - COTEA*TT(1)	CTOT0470	
2567	DO 141 I=1,5	CTOT0475	
2568	YC(20) = COTEA - TAND(1)	CTOT0480	
2569	YC(I+11) = (CCL0(1) - YC(20))/YC(20)	CTOT0490	
2570	YC(I+10) = YC(I+11)*TAND(1) + CCL0(1)	CTOT0500	
2571	141 CONTINUE	CTOT0510	
2572	C	CTOT0520	
2573	C	CTOT0530	
2574	I = ND(1)	CTOT0540	
2575	142 YC(20) = COTEA - YC(I+04)	CTOT0550	
2576	IF (YC(20)) 145,143,145	CTOT0560	
2577	143 IF (ND(11) - 1) 144,145,144	CTOT0570	
2578	144 I = ND(11)	CTOT0580	
2579	GO TO 144	CTOT0590	
2580	144 I = I + ND(11)	CTOT0590	
2581	144 YC(20) = COTEA - YC(I+04)	CTOT0595	
2582	145 YC(11) = (YC(I+75) - YC(20))/YC(20)	CTOT0600	
2583	IF (YC(I+41) - YC(11)) 146,148,146	CTOT0610	
2584	146 IF (I - ND(11)) 147,148,148	CTOT0620	
2585	147 I = I + ND(11)	CTOT0630	
2586	GO TO 142	CTOT0640	
2587	148 YC(10) = YC(I+YC(I+04) + YC(I+75)	CTOT0650	
2588	C	CTOT0660	
2589	C	CTOT0670	
2590	150 I = ND(1)	CTOT0680	
2591	151 YC(20) = COTEA - YC(I+110)	CTOT0690	
2592	IF (YC(20)) 154,152,154	CTOT0700	
2593	152 IF (ND(11) - 1) 153,151,153	CTOT0710	
2594	153 I = ND(11)	CTOT0720	
2595	GO TO 153	CTOT0725	
2596	153 I = I + ND(11)	CTOT0730	
2597	153 YC(20) = COTEA - YC(I+110)	CTOT0735	
2598	154 YC(17) = (YC(I+121) - YC(20))/YC(20)	CTOT0740	
2599	IF (YC(I+07) - YC(17)) 156,157,157	CTOT0750	
2600	156 IF (I - ND(11)) 156,157,157	CTOT0760	
2601	156 I = I + ND(11)	CTOT0770	
2602	GO TO 151	CTOT0780	
2603	157 YC(24) = YC(17)*YC(I+110) + YC(I+121)	CTOT0790	
2604	C	CTOT0800	
2605	C	CTOT0810	
2606	160 YC(25) = (YC(24) - YC(10))/COSO(3)	CTOT0820	
2607	YC(26) = (YC(23) - YC(10))/COSO(3)	CTOT0830	
2608	YC(27) = (YC(22) - YC(20))/COSO(3)	CTOT0840	
2609	C	CTOT0850	
2610	C	CTOT0860	
2611	C	CTOT0870	
2612	C	CTOT0880	
2613	170 IF (IP(15)) 171,171,100		
2614	171 WRITE (6,172) TT(1), TT(2)	CTOT0890	
2615	172 FORMAT(1H0,20X,7HTT(1) =,F0.3,5X,7HTT(2) =,F0.3/04 YC 1		
2616	C	CTOT0920	
2617	002 FORMAT (1H 14,5E10.0)	CTOT0930	
2618	C	CTOT0940	
2619	DO 0040 N1=1,35,5	CTOT0950	
2620	K2 = N1 + ND(4)	CTOT0960	
2621	WRITE (6,002) N1, (YC(I1), I1=N1), K2, 11	CTOT0970	
2622	0040 CONTINUE	CTOT0980	
2623	C	CTOT0990	
2624	C	CTOT1000	
2625	100 RETURN	CTOT1000	
2626	END	CTOT1000	

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND ENGINEAGE MODULE -
CARD NO	****	CONTENTS	****
2627	C	*****	
2628	C		
2629	C	****SUBROUTINE PRTH****	
2630	C	***DESIGN DATA PRINT - MISC CONTENT MABS DATA***	
2631	C		
2632	C	*****	
2633	C		
2634		SUBROUTINE PRTH	PRTH0010
2635	C		PRTH0020
2636	C	***PRINT SUBR FOR MISC CONTENTS INTEGRATION SUBR MISCIT***	PRTH0030
2637	C	*PRINTS ON STATUS OF IPE*	PRTH0040
2638	C	*IPE = TYPE OF PRINT BLOCK OF MISCIT CALC DATA*(1-5)*	PRTH0050
2639	C		PRTH0060
2640		COMMON T	PRTH0070
2641	C		PRTH0080
2642		01ENS:ON T(1020),D(2000),CD(2000),ND(100),DC(100),	PRTH0090
2643		ITCS(250),CC(100),	PRTH0100
2644		0TST(50),TOR(100)	PRTH0110
2645	C		PRTH0120
2646		EQUIVALENCE (D(1),T(200)),(CD(1),T(412)),(ND(1),T(612)),	PRTH0130
2647		(DC(1),D(140)),(TCS(1),CD(140)),(CC(1),C(100)),	PRTH0140
2648		0TST(1),T(170)),(TOR(1),T(175)),	PRTH0150
2649		0(IPE,ND(33)),	PRTH0160
2650		0(N,ND(27)),(L,ND(26))	PRTH0170
2651	C		PRTH0180
2652	C	***CHECK STATUS OF IPE FOR PRINT BLOCK***	PRTH0190
2653	C	*IPE=1 FOR PRINT BLOCK 1*	PRTH0200
2654	C	*IPE=2 FOR PRINT BLOCK 2*	PRTH0210
2655	C	*IPE=3 FOR PRINT BLOCK 3*	PRTH0220
2656	C	*IPE=4 FOR PRINT BLOCK 4*	PRTH0230
2657	C	*IPE=5 FOR PRINT BLOCK 5*	PRTH0240
2658		IF (IPE - ND(4)) 100,130,140	PRTH0250
2659		100 IF (IPE - ND(2)) 150,110,120	PRTH0260
2660	C		PRTH0270
2661	C	*BLOCK 1*	PRTH0280
2662		110 WRITE (6,000)	PRTH0290
2663		000 FORMAT (8H1 ***PRTH SUBR -- DATA=CCI ARRAY. CALC DATA=TCS, TST,PTTH0240	
2664		1 TOR ARRAYS***,2X,10H** PRTH - (P(13) **)	
2665	C		PRTH0310
2666		002 FORMAT (1H (4,SE10.0)	
2667		003 FORMAT (8H CCI)	
2668		004 FORMAT (8H TCS)	
2669		005 FORMAT (8H TST)	
2670		006 FORMAT (8H TOR)	
2671		WRITE (6,003)	
2672		DO 0030 NI=1,300,5	
2673		K2 = NI + ND(4)	
2674		WRITE (6,002)NI,(CCI(1)),11=NI,K2,1)	
2675		0030 CONTINUE	
2676		GO TO 000	PRTH0420
2677	C		PRTH0430
2678	C	*BLOCK 2*	PRTH0440
2679		120 WRITE (6,000)	
2680		WRITE (6,000)1H	
2681		0001 FORMAT (4H0 *UNIF. DIST. MTS. TOR,TST,TCS(1-143). STAJ3)	
2682		WRITE (6,005)	
2683		DO 0050 NI=1,100,5	
2684		K2 = NI + ND(4)	
2685		WRITE (6,002)NI,(TOR(1)),11=NI,K2,1)	
2686		0050 CONTINUE	
2687		WRITE (6,005)	
2688		DO 0050 NI=1,50,5	
2689		K2 = NI + ND(4)	
2690		WRITE (6,002)NI,(TST(1)),11=NI,K2,1)	
2691		0050 CONTINUE	
2692		WRITE (6,004)	
2693		DO 0040 NI=1,143,5	
2694		K2 = NI + ND(4)	
2695		WRITE (6,002)NI,(TCS(1)),11=NI,K2,1)	
2696		0040 CONTINUE	
2697		GO TO 000	PRTH0510

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS	
2698	C	PRTH0620
2699	C	PRTH0630
2700	130 WRITE(6,900)	
2701	WRITE(6,9002)N,L	
2702	9002 FORMAT (40H0 "CONC PT. ITEMS TST AND TCS(1-143) STA13,6H 17	
2703	1EM12)	
2704	WRITE (6,905)	
2705	DO 9051 NI=1,50,5	
2706	K2 = NI + ND(4)	
2707	WRITE (6,902)NI,(TST(11),11-NI,K2,1)	
2708	9051 CONTINUE	
2709	WRITE (6,904)	
2710	DO 9041 NI=1,195,5	
2711	K2 = NI + ND(4)	
2712	WRITE (6,902)NI,(TCS(11),11-NI,K2,1)	
2713	9041 CONTINUE	
2714	GO TO 999	PRTH0750
2715	C	PRTH0760
2716	C	PRTH0770
2717	140 WRITE(6,900)	
2718	WRITE(6,9003)N,L	
2719	9003 FORMAT (40H0 "DIST. LINE ITEMS. TST,TOR,TCS(1-143). STA13,6H	
2720	11LINE12)	
2721	WRITE (6,905)	
2722	DO 9052 NI=1,50,5	
2723	K2 = NI + ND(4)	
2724	WRITE (6,902)NI,(TST(11),11-NI,K2,1)	
2725	9052 CONTINUE	
2726	WRITE (6,906)	
2727	DO 9062 NI=1,100,5	
2728	K2 = NI + ND(4)	
2729	WRITE (6,902)NI,(TOR(11),11-NI,K2,1)	
2730	9062 CONTINUE	
2731	WRITE (6,904)	
2732	DO 9042 NI=1,143,5	
2733	K2 = NI + ND(4)	
2734	WRITE (6,902)NI,(TCS(11), 11-NI,K2,1)	
2735	9042 CONTINUE	
2736	GO TO 999	PRTH0940
2737	C	PRTH0950
2738	C	PRTH0960
2739	150 WRITE (6,9004)	PRTH0970
2740	9004 FORMAT (60H1 ***PRTH SUBR--FINAL OUTPUT DATA ARRAYS--TCS AND CCPRTH0310	
2741	11(100-201)***,23X,10H** PRTH - 1P(14) **)	
2742	WRITE (6,904)	
2743	DO 9043 NI=1,250,5	
2744	K2 = NI + ND(4)	
2745	WRITE (6,902)NI,(TCS(11),11-NI,K2,1)	
2746	9043 CONTINUE	
2747	WRITE (6,903)	
2748	DO 9033 NI=100,201,5	
2749	K2 = NI + ND(4)	
2750	WRITE (6,902)NI,(CC(11),11-NI,K2,1)	
2751	9033 CONTINUE	
2752	C	PRTH1000
2753	C	PRTH0900
2754	C	PRTH0910
2755	999 RETURN	PRTH0980
2756	END	PRTH0990

OVERLAY (16,0)

DESIGN DATA FOR TORQUE-BOX ANALYSIS

BB/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
FORTRAN MODULE	(LIST,AUTOSEQ)		
CARD NO	****	CONTENTS	****
1	C	*****	
2	C		
3	C	****PROGRAM CLAY16****	
4	C	***PROGRAM FOR FOURTH OVERLAY OF WING/EMPENNAGE MODULE***	
5	C	DESIGN DATA FOR TORQUE-BOX ANALYSIS	
6	C		
7	C	*****	
8	C		
9	C	PROGRAM CLAY16	
10	C		
11	C	COMMON T(7120)	
12	C		
13	C	COMMON /MISC/ MISC(100)	
14	C		
15	C	REHIND 24	
16	C		
17	C	BUFFER IN(24,1)(T(1),T(7120))	
18	C		
19	C	IF(UNIT(24))10,10,10	
20	C		
21	C	10 CALL MDDATA	
22	C		
23	C	REHIND 24	
24	C		
25	C	BUFFER OUT(24,1)(T(1),T(7120))	
26	C		
27	C	IF(UNIT(24))20,20,20	
28	C		
29	C	20 CONTINUE	
30	C		
31	C	END	
32	C	*****	
33	C		
34	C	****SUBROUTINE MDDATA****	
35	C	***DESIGN DATA GENERATION CONTROL***	
36	C		
37	C	*****	
38	C		
39	C	SUBROUTINE MDDATA	MDDA0010
40	C		MDDA0020
41	C	***01-25-73--DESIGN DATA CONTROL SUBR FOR WING ANALYSIS***	MDDA0030
42	C		MDDA0040
43	C		MDDA0050
44	C	COMMON T	MDDA0060
45	C	COMMON /PRINT/ IP(80)	MDDA0061
46	C		MDDA0070
47	C	DIMENSION T(6200),D(2000),CD(2000),ND(100),DC(100),	MDDA0080
48	C	ITSEC(100),T0(100),TMD(100),CLE(150),CTE(150),CC(100),TWT(250),	MDDA0081
49	C	ZYST(11),YBP(11),NBP(11),TBD(11),TBN(11),TFLD(10),CH(150),	MDDA0082
50	C	IMPLE(112),IMPLE(12),IMPLE(11),IMPLE(11),TBP(11),TBCMT(11),	MDDA0083
51	C	FLV(11),FLV(11),FLN(11),FLN(11),FLT(11),FLT(11),	MDDA0084
52	C	SCOLV(11),COLV(11),COLV(11),COLN(11),COLN(11),COLN(11),	MDDA0085
53	C	CCOLV(11),COLT(11),COLT(11),STW(11),STW(11),STW(11),	MDDA0086
54	C	TOW(11),DM(11),DMT(11),MTIP(1),OTTR(12),MPLS(10),TPMLN(10),	MDDA0087
55	C	BPCOL(10),CCOLV(11),CCOLN(11),CCOLT(11),CCOLT(150),	MDDA0088
56	C	QYSTC(11),TBS(11),TBS(11),QVSR(11)	MDDA0089
57	C	A,C10Y(150)	MDDA0090
58	C		MDDA0090
59	C	EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)),	MDDA0100
60	C	(DC(1),D(1401)),(TSEC(1),CD(1501)),(T0(1),T(1001)),	MDDA0101
61	C	(TBN(1),T(1301)),(CLE(1),CD(851)),(CTE(1),CD(801)),	MDDA0102
62	C	(CCOL(1),CD(1051)),(TWT(1),CD(151)),(YSTC(1),TSEC(1051)),	MDDA0103
63	C	(YYST(1),T(151)),(YBP(1),T(500)),(NBP(1),T(400)),(TBD(1),T(530)),	MDDA0104
64	C	(TBN(1),T(942)),(TBS(1),T(153)),(TBS(1),T(105)),	MDDA0105
65	C	(TFLD(1),T(631)),(IMPLE(1),T(205)),(IMPLE(1),T(207)),	MDDA0106
66	C	(IMPLE(1),T(2631)),(IMPLE(1),T(274)),(TBP(1),T(745)),	MDDA0107
67	C	(TBCMT(1),T(700)),(DM(1),T(500)),(DM(1),T(600)),(DMT(1),T(620)),	MDDA0108
68	C	(STW(1),T(811)),(STW(1),T(822)),(STW(1),T(833))	MDDA0109
69	C	A,C10Y(1),T(501))	MDDA0109
70	C		MDDA0110

06/10/74	INPUT LISTING	AUTOLON CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
71		EQUIVALENCE (FLV1(1),T1445), (FLV2(1),T1470), (FLM1(1),T1456),	MODA0120
72		(FLM2(1),T1408), (FLT1(1),T1467), (FLT2(1),T1419),	MODA0121
73		(COLV1(1),T1309), (COLM1(1),T1320), (COLT1(1),T1331),	MODA0122
74		(COLV2(1),T1342), (COLM2(1),T1353), (COLT2(1),T1364),	MODA0123
75		(DITRB(1),T1666), (DPCOL(1),T1220),	MODA0124
76		(DCOLV1(1),T1230), (DCOLM1(1),T1241), (DCOLT(1),T1252),	MODA0125
77		(DCOLV1(1),T1230), (DCOLM1(1),T1241), (DCOLT(1),T1252),	MODA0126
78		(DTPML(1),T1845), (DTPML(1),T1856), (DTPML(1),T1845),	MODA0127
79		(DDELD(1),T1871), (DDELD(1),T1871), (DDELD(1),T1871), (DDELD(1),T1871),	MODA0128
80		(DDELD(1),T1871), (DDELD(1),T1871), (DDELD(1),T1871), (DDELD(1),T1871),	MODA0129
81	C		MODA0130
82	C		MODA0140
83	C	***SAVE CIOY ARRAY IN RCD 180--(10) YAW DATA***	MODA0149
84		CALL WRITHS (1,CIOY(1),150,180)	MODA0150
85	C		MODA0159
86	C	***SETUP T,CD REGION FOR ANALYSIS***	MODA0160
87	100	DO 101 I=1,100	MODA0170
88		T(I+200) = DC(3)	MODA0180
89	101	CONTINUE	MODA0190
90		DO 102 I=1,300	MODA0200
91		T(I+700) = DC(3)	MODA0210
92	102	CONTINUE	MODA0220
93	C		MODA0230
94	C	***MOVE BOX GEOMETRY DATA**	MODA0240
95		DO 103 I=1,11	MODA0250
96		YST(I) = TG(1)	MODA0260
97		YBP(I) = TG(1+11)	MODA0270
98		YBP(I) = TG(1+22)	MODA0280
99		TBD(I) = TG(1+76)	MODA0290
100		TBD(I) = TG(1+205)	MODA0300
101	103	CONTINUE	MODA0310
102	C		MODA0317
103	C	***SETUP KVIFS,RS) IN TEMP LOC**	MODA0318
104	C	***ASSUME KV VALUES ONLY BETWEEN .33 AND .67**	MODA0319
105		DO 1033 I=1,11	MODA0320
106		T(I+200) = CC(1+11)/CC(1+22)	MODA0321
107		IF (T(I+200) - D(21)) 1030,1033,1031	MODA0322
108	1030	T(I+200) = D(21)	MODA0323
109		GO TO 1033	MODA0324
110	1031	IF (D(51) - T(I+200)) 1032,1033,1033	MODA0325
111	1032	T(I+200) = D(51)	MODA0326
112	1033	CONTINUE	MODA0327
113	C		MODA0329
114	C	***MOVE LE/TE MT/IN AND MT/PNL TO T LOC FOR MT ANALYSIS*	MODA0330
115	C	***RESET CLEI AND CTEI ARRAYS--RCDs 140-150**	MODA0331
116		CALL READMS (1,CLEI(1),150,140)	MODA0335
117		CALL READMS (1,CTEI(1),150,150)	MODA0336
118	C		MODA0338
119		DO 104 I=1,12	MODA0340
120		MPLE(I) = CLEI(1)	MODA0350
121		MPLE(I) = CTEI(1)	MODA0360
122	104	CONTINUE	MODA0370
123	C		MODA0380
124	C		MODA0388
125		DO 105 I=1,11	MODA0400
126		MPLE(I) = TND(1+333)	MODA0410
127		MPLE(I) = TND(1+345)	MODA0420
128	105	CONTINUE	MODA0430
129	C		MODA0448
130	C	***MOVE BOX MT/IN AND CONC MT AT SECT FOR MT ANALYSIS**	MODA0450
131		DO 106 I=1,11	MODA0460
132		TBP(I) = TND(1+356)	MODA0470
133		TBCT(I) = CC(1+102)	MODA0480
134	106	CONTINUE	MODA0490
135	C		MODA0500
136	C	***TIP HEIGHT. DELTD NOT APPLIED***	MODA0501
137		DO 108 I=1,4	MODA0502
138		MTIP(I) = CH(1+146)	MODA0503
139	108	CONTINUE	MODA0504
140	C		MODA0505
141	C	***MOVE I-G WHT DATA FOR MT ANALYSIS***	MODA0509

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MINING AND EXPENSES MODULE -
CARD NO	CONTENTS		
142	C	**ADD DELTA-DELTA AND DELTA-DELTA TO LE/TE WHT*	MODA0510
143	DO 107 1-1,11		MODA0520
144	FLV1(1) = TWMT(1)		MODA0530
145	FLV2(1) = TWMT(1+33)		MODA0540
146	FLV3(1) = TWMT(1+11)		MODA0550
147	FLV4(1) = TWMT(1+44)		MODA0560
148	FLV5(1) = TWMT(1+22)		MODA0570
149	FLV6(1) = TWMT(1+55)		MODA0580
150	COLV1(1) = TWMT(1+66)		MODA0590
151	COLV2(1) = TWMT(1+99)		MODA0600
152	COLV3(1) = TWMT(1+132)		MODA0610
153	COLV4(1) = TWMT(1+77)		MODA0620
154	COLV5(1) = TWMT(1+110)		MODA0630
155	COLV6(1) = TWMT(1+143)		MODA0640
156	COLV7(1) = TWMT(1+88)		MODA0650
157	COLV8(1) = TWMT(1+121)		MODA0660
158	COLV9(1) = TWMT(1+154)		MODA0670
159	STW1(1) = TWG(1+162)*DAGLE + TWG(1+188)*DAGTE + TWG(1+233)		MODA0680
160	STW2(1) = TWG(1+174)*DAGLE + TWG(1+210)*DAGTE + TWG(1+244)		MODA0690
161	STW3(1) = TWG(1+186)*DAGLE + TWG(1+222)*DAGTE + TWG(1+255)		MODA0700
162	DW1(1) = TWG(1+120)		MODA0710
163	DW2(1) = TWG(1+130)		MODA0720
164	DW3(1) = TWG(1+150)		MODA0730
165	107 CONTINUE		MODA0740
166	C		MODA0750
167	C	**FUEL CELL DATA**	MODA0760
168	DO 100 1-1,2		MODA0770
169	N = 1+13 - MD(12)		MODA0780
170	TFLD(1) = TWG(N+301)		MODA0790
171	TFLD(1+2) = TWG(N+305)		MODA0800
172	TFLD(1+4) = TWG(N+302)		MODA0810
173	TFLD(1+6) = TWG(N+304)		MODA0820
174	TFLD(1+8) = TWG(N+306)		MODA0830
175	100 CONTINUE		MODA0840
176	C		MODA0841
177	C	**SETUP DELTA BOX HEIGHT DUE TO COL AND T-TAIL DATA**	MODA0842
178	DTTB(1) = CCOL(100)		MODA0843
179	DTTB(2) = DC(3)		MODA0844
180	IF (CCOL(123) - T0(1)) 1000,1001,1001		MODA0845
181	1000 DTTB(2) = CCOL(100)		MODA0846
182	DTTB(1) = DC(3)		MODA0847
183	C		MODA0848
184	C	**DELTA BOX F10 MT DUE TO COL. ADD DELTA-DELTA TO WHT**	MODA0849
185	1001 DO 1003 1-1,11		MODA0850
186	DCOLV1(1) = TWG(1+27)*DELTA		MODA0851
187	DCOLV2(1) = TWG(1+30)*DELTA		MODA0852
188	DCOLV3(1) = TWG(1+40)*DELTA		MODA0853
189	IF (1 - MD(10)) 1002,1002,1003		MODA0854
190	1002 DPCOL(1) = TWG(1+17)		MODA0855
191	1003 CONTINUE		MODA0857
192	C		MODA0858
193	C	**SETUP INITIAL PHL MT DATA. SET REQD DIST MT-DIST ST**	MODA0859
194	DO 1004 1-1,10		MODA0860
195	MPHLS(1) = TWG(1+95)		MODA0861
196	TPHLX(1) = MPHLS(1)		MODA0862
197	1004 CONTINUE		MODA0865
198	C		MODA0866
199	C	**CLEAR TOTAL CD REGION**	MODA0868
200	DO 100 1-1,2000		MODA0870
201	CD(1) = DC(3)		MODA0880
202	100 CONTINUE		MODA0890
203	C		MODA0900
204	C		MODA0901
205	C	**SET RV(PS,RS)***	MODA0902
206	DO 1000 1-1,11		MODA0903
207	DWFRS(1) = T(1+200)		MODA0904
208	1000 CONTINUE		MODA0905
209	C		MODA0906
210	C	**SETUP BOX GEOMETRY IN TSEC**	MODA0910
211	DO 110 1-1,11		MODA0920
212	N = MD(12) - 1		MODA0930

08/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MINING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
213	YSTRC(N) = YST(I)		MDDA0948
214	TSEC(N+44) = TBM(I)		MDDA0950
215	TSEC(N+55) = TBO(I)		MDDA0960
216	TSEC(N+77) = TBS(I)		MDDA0970
217	TSEC(N+88) = TBS(I)		MDDA0980
218	110 CONTINUE		MDDA0990
219	C		MDDA1000
220	C **CLEAR TMD**		MDDA1010
221	DO 111 I=1,N00		MDDA1020
222	TMD(I) = DC(3)		MDDA1030
223	111 CONTINUE		MDDA1040
224	C		MDDA1050
225	C		MDDA2000
226	C ***CALC DESIGN DATA. GJ REGD, AIRLOADS, NATL***		MDDA2010
227	C *SETUP DMT AND ANALYSIS CONSTANTS*		MDDA2020
228	200 CALL HTLCH		MDDA2030
229	C		MDDA2040
230	C		MDDA2050
231	CALL AL0AD		MDDA2060
232	C		MDDA2070
233	C		MDDA2080
234	CALL GJCAL		MDDA2090
235	C		MDDA2100
236	C		MDDA2101
237	C **CLEAR TH, THD REGION--T(124)-18001+60 CELLS**		MDDA2102
238	DO 201 I=1,N60		MDDA2103
239	T(I+1240) = DC(3)		MDDA2104
240	201 CONTINUE		MDDA2105
241	C		MDDA2109
242	C		MDDA2110
243	CALL CHSTC		MDDA2120
244	C		MDDA2130
245	C		MDDA2140
246	CALL ABDM		MDDA2150
247	C		MDDA2160
248	C		MDDA2170
249	CALL YWSET		MDDA2180
250	C		MDDA2190
251	C		MDDA2200
252	C **BK PRINT TEST FOR INITIAL T AND CD ARRAYS--ID=IP(23)**		MDDA2210
253	250 IF (IP(23)261,261,269		MDDA2220
254	261 WRITE (6,262)		MDDA2230
255	C		MDDA2239
256	262 FORMAT (62H) ***DESIGN DATA CONTROL PROGRAM--INITIAL T AND CD ARR--		MDDA2240
257	IRAYS***,27X,2IH** MDDATA - IP(23) **END T)		
258	263 FORMAT (1H 14,2E10.0)		MDDA2250
259	264 FORMAT (6H CD)		MDDA2260
260	DO 265 N=1,2000,5		MDDA2270
261	K = N+ND(4)		MDDA2280
262	WRITE (6,263)N,(T(I),I=N,K,1)		MDDA2290
263	265 CONTINUE		MDDA2300
264	C		MDDA2310
265	WRITE (6,264)		MDDA2320
266	DO 266 N=1,2000,5		MDDA2330
267	K = N+ND(4)		MDDA2340
268	WRITE (6,263)N,(CD(I),I=N,K,1)		MDDA2350
269	266 CONTINUE		MDDA2360
270	C		MDDA2370
271	C		MDDA8000
272	C **EXIT**		MDDA8000
273	290 RETURN		MDDA8000
274	END		MDDA8000
275	C*****		
276	C		
277	C *****SUBROUTINE HTLCH*****		
278	C ***MATERIAL PROPERTIES EVALUATION CONTROL - METALLIC DESIGNS***		
279	C		
280	C*****		
281	C		
282	SUBROUTINE HTLCH		MATC0010
283	C		MATC0011

06/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
204	C	***MATEL FIT CONTROL SUBR***	MATC0030
205	C		MATC0040
206		COMMON T(6220)	MATC0050
207		COMMON /IPRINT/ IP(80)	MATC0051
208	C		MATC0060
209		DIMENSION D(2060),CD(2060),ND(100),DC(100),	MATC0070
210		ITT(24),DHTLB(18),DHTLP(18),	MATC0071
211		DTMD(300),TH(180)	MATC0078
212	C		MATC0080
213		EQUIVALENCE (D(1),T(2061)),(CD(1),T(421)),(ND(1),T(612)),	MATC0090
214		(DC(1),D(140)),(ITT(1),T(1317)),	MATC0091
215		2(TH(1),T(181)),(DTMD(1),T(134)),	MATC0092
216		3(DH(1),D(250)),(DHT(1),D(259)),(DPWH(1),D(195)),(DPWT(1),D(187)),	MATC0093
217		4(DPVT(1),D(200)),	MATC0094
218		5(CCSM(1),T(199)),(CCSFH(1),T(200)),	MATC0095
219		6(DHTLP(1),CD(1905)),	MATC0096
220		7(SDTHK(1),D(386)),(ULTD(1),D(122)),	MATC0097
221		8(VTID(1),D(289)),(DHTLB(1),T(201)),	MATC0098
222		9(MATEL(ND(58)),(MATEL(ND(21)),(1,ND(31)),(NN(ND(26)),(IF3,ND(92)))	MATC0099
223	C		MATC0100
224	C	***DO BOX AND PIVOT NN=ND(26)+10, 1=BOX, 2=PIVOT***	MATC0110
225	C	***TORQUE BOX***	MATC0120
226		100 NN = ND(1)	MATC0130
227		TT(1) = DPH	MATC0140
228		TT(2) = DHT	MATC0150
229	C		MATC0210
230	C	***TEST NO FOR MAGNITUDE***	MATC0220
231		112 MATEL = TT(1)	MATC0230
232		IF (MATEL) 114,114,113	MATC0250
233		113 IF (NMATEL - MATEL) 114,120,120	MATC0260
234		114 MATEL = ND(1)	MATC0270
235	C	***MATEL NO ERROR. PRINT ERROR MESSAGE***	MATC0280
236		WRITE (6,115)	MATC0290
237		115 FORMAT (40H) ***MATEL INPUT ERROR. ASSUMED MATEL NO. 1.***	MATC0300
238		116 FORMAT (22H) ***TORQUE-BOX--MATEL=13,8H TEMP=7.1)	MATC0310
239		117 FORMAT (17H) ***PIVOT--MATEL=13,8H TEMP=7.1)	MATC0311
240	C		MATC0312
241		IF (NN - ND(1)) 118,118,119	MATC0320
242		118 WRITE (6,116)MATEL,TT(2)	MATC0321
243		GO TO 120	MATC0322
244		119 WRITE (6,117)MATEL,TT(2)	MATC0325
245	C		MATC0329
246	C	***READ MATEL RECORD***	MATC0330
247		120 IF3 = MATEL + 40	MATC0340
248		CALL REACHS (1,THD(1),300,IF3)	MATC0350
249	C		MATC0360
250	C	TEST TEMPERATURE FOR VALID VALUE.	MATC0370
251	C	***INTERPOLATE, FIT AND PRINT***	MATC0400
252		120 CALL HTLFW	MATC0470
253	C		MATC0480
254	C	***MOVE DATA TO FINAL LOC***	MATC0490
255		130 IF (ND(2) - NN) 131,131,140	MATC0500
256	C		MATC0508
257	C	***PIVOT DESIGN MATEL ARRAY. STORE IN DHTLP(1-18)***	MATC0509
258		131 DO 132 I=1,18	MATC0510
259		DHTLP(I) = TH(I)	MATC0511
260		132 CONTINUE	MATC0519
261	C		MATC0520
262	C	***MATEL PRINT--IP 19***	MATC0521
263		IF (IP(19))130,130,190	MATC0530
264		130 CALL HTLFW	MATC0535
265		GO TO 190	MATC0540
266	C		MATC0550
267	C	***TORQUE-BOX MATEL ARRAY--18 CELLS FROM TH(1-18)***	MATC0560
268		140 DO 141 I=1,18	MATC0570
269		DHTLB(I) = TH(I)	MATC0580
270		141 CONTINUE	MATC0588
271	C		MATC0590
272	C	***MOVE CRIPPLING COEFFICIENTS***	MATC0598
273		CCSM = THD(6)	MATC0600
274		CCSFH = THD(7)	MATC0601

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
356	C		MATC0609
356	C		MATC1500
357	C	***MATL PRINT--IP 19***	MATC1510
358		IF (IP(19))191,191,192	MATC1520
359	191	CALL HTLPH	MATC1525
360	C		MATC1530
361	C	***NONE FATIGUE DATA***	MATC1540
362	C	*TEST K1FTMAX FOR 0. IF 0 USE CALC DATA*	MATC1550
363	C	*CALC RATIO OF FTHAX/FTULT1*	MATC1560
364	C	*TH(12) = FT(ULT1)	MATC1570
365	C	*TH(18) = RATIO OF FTU AT B1/2, LIMIT ALLOW.*	MATC1580
366	C	*TH(19) = RATIO OF FTU AT STA 2, ULIMIT ALLOW.*	MATC1590
367	C	*USE FOR WING BOX ANALYSIS ONLY. TEST FOR WING*	MATC1600
368	C		MATC1610
369	192	IF (VTID) 199,193,199	MATC1620
370	193	DO 194 I=1,2	MATC1630
371		TH(1+17) = ULTD*TH(1+17)	MATC1635
372		IF (DI(1) - TH(1+17)) 1930,194,194	MATC1640
373	1930	TH(1+17) = DI(1)	MATC1645
374	194	CONTINUE	MATC1650
375	C		MATC1654
376	C	***USE STA 2 RATIO--MUST BE LESS THAN OR EQUAL TO 1.0***	MATC1655
377	C	***ASSUME MINIMUM CUT-OFF STRESS RATIO = 0.50***	MATC1656
378		IF (SDTHK) 195,195,197	MATC1660
379	195	SDTHK = TH(19)	MATC1670
380		IF (SDTHK - 0.50) 196,197,197	MATC1680
381	196	SDTHK = 0.50	MATC1690
382	C		MATC1699
383	C	***TEST FOR PIVOT. WING ONLY***	MATC1700
384	C	*SET NM=2 FOR PIVOT--TEST IF PIVOT TO BE ANALYZED*	MATC1701
385	197	IF (DYPVT) 199,199,199	MATC1710
386	199	NM = NM(2)	MATC1720
387		TT(1) = DPWHT	MATC1730
388		TT(2) = DPWHT	MATC1740
389		GO TO 112	MATC1750
390	C		MATC1760
391	C		MATC9990
392	199	RETURN	MATC9991
393	END		MATC9999
394	C*****		
395	C		
396	C	*****SUBROUTINE HTLPH*****	
397	C	***CURVE FIT FOR MATERIAL STRESS-STRAIN CURVE - METALS***	
398	C		
399	C*****		
400	C		
401		SUBROUTINE HTLPH	MATF0010
402	C		MATF0011
403	C	***MATL PROP INTERPOLATION AND FIT SUBR***	MATF0020
404	C		MATF0030
405	C		MATF0080
406	C		MATF0100
407		COMMON T(2080) D(2080),CD(2000),ND(100)	MATF0110
408	C		MATF0120
409		DIMENSION DC(100),	MATF0130
410		ITHD(300),TH(100),	MATF0131
411		STT(20)	MATF0139
412	C		MATF0140
413		EQUIVALENCE (DC(1),D(1401)),	MATF0150
414		1(THD(1),T(1341)),(TH(1),T(1011)),(TT(1),T(1317)),	MATF0151
415		0(MATL,ND(21)),	MATF0158
416		9(K,ND(31)),IN,ND(301),IK,ND(291),IL,ND(201)	MATF0159
417	C		MATF0160
418	C		MATF0170
419	100	DO 101 I=1,100	MATF0180
420		TH(I) = DC(I)	MATF0190
421	101	CONTINUE	MATF0200
422	C		MATF0210
423	C	***SETUP FOR INTERPOLATION**	MATF0220
424	C	***TEST FOR ONE TEMP SET AND FOR NEG TEMP BEYOND RANGE**	MATF0221
425		N = ND(1)	MATF0230

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
426	IF (THD(135)) 103,103,104		MATF0235
427	C		MATF0236
428	C	ONE TEMP SET AVAILABLE--TEST RECD TEMP	MATF0239
429	103 IF (THD(110) - TT(2)) 117,118,117		MATF0240
430	C		MATF0243
431	C	**TWO OR MORE TEMP SETS AVAILABLE*	MATF0244
432	104 IF (THD(110) - TT(2)) 105,118,114		MATF0245
433	105 N = ND(2)		MATF0250
434	IF (THD(135) - TT(2)) 108,118,120		MATF0255
435	106 IF (THD(160)) 117,117,107		MATF0260
436	107 N = ND(3)		MATF0265
437	IF (THD(160) - TT(2)) 108,118,120		MATF0270
438	108 IF (THD(195)) 117,117,109		MATF0275
439	109 N = ND(4)		MATF0280
440	IF (THD(195) - TT(2)) 110,118,120		MATF0290
441	110 IF (THD(210)) 117,117,111		MATF0295
442	111 N = ND(5)		MATF0300
443	IF (THD(210) - TT(2)) 112,118,120		MATF0305
444	112 IF (THD(235)) 117,117,113		MATF0310
445	113 N = ND(6)		MATF0315
446	IF (THD(235) - TT(2)) 117,118,120		MATF0320
447	C		MATF0324
448	C	**RECD TEMP LESS THAN TEMP(1). WRITE ERROR MESSAGE**	MATF0325
449	114 WRITE (8,115)MATL1,THD(110),TT(2),THD(110)		MATF0330
450	GO TO 118		MATF0335
451	C		MATF0339
452	115 FORMAT (38H- **MATL TEMPERATURE ERROR. MATL NO.F4.1,3TH RECD TEMP=		MATF0340
453	1P LESS THAN SET (1) TEMP OF .F7.1,8H DEG.***,//14X,12H RECD TEMP=		MATF0341
454	2F7.1,20H DEG. ASSUMED TEMP=F7.1,8H DEG.)*		MATF0342
455	C		MATF0344
456	116 FORMAT (38H- **MATL TEMPERATURE ERROR. MATL NO.F4.1,50H. RECD THAT		MATF0345
457	TEMP OUTSIDE RANGE OF TEMP SETS ON FILE***,//1,1,30H TEMP SETS ON		MATF0346
458	2 FILE--MIN TEMP=F7.1,18H DEG., MAX TEMP=F7.1,8H DEG. ,//14X,12H		MATF0347
459	3RECD TEMP=F7.1,20H DEG. ASSUMED TEMP=F7.1,8H DEG.)*		MATF0348
460	C		MATF0349
461	C	**RECD TEMP OUTSIDE RANGE OF TEMP SETS--WRITE ERROR MESS.	MATF0350
462	117 I = N*25 - 24		MATF0355
463	WRITE (8,118)MATL1,N,THD(110),THD(1+109),TT(2),THD(1+109)		MATF0360
464	C		MATF0369
465	C	**MOVE TEMP SET (N) TO WORKING REGION--TH(31-95)**	MATF0370
466	118 K = N*25 - 25		MATF0375
467	DO 119 I=1,24		MATF0380
468	K = K + ND(1)		MATF0385
469	TH(1+30) = TH(K+110)		MATF0390
470	119 CONTINUE		MATF0395
471	GO TO 130		MATF0400
472	C		MATF0409
473	C	**MOVE DATA FOR INTERPOLATION	MATF0410
474	120 DO 121 I=1,25		MATF0420
475	K = N*25 + 1 - 50		MATF0430
476	L = K + 25		MATF0440
477	TH(1+54) = TH(K+109)		MATF0450
478	TH(1+78) = TH(L+109)		MATF0460
479	121 CONTINUE		MATF0470
480	TT(3) = (TH(95) - TT(2))/(TH(80) - TH(95))		MATF0480
481	DO 122 I=1,24		MATF0490
482	TH(1+30) = TH(1+95) + TT(3)*(TH(1+95) - TH(1+80))		MATF0500
483	122 CONTINUE		MATF0510
484	C		MATF0520
485	C	**PROCESS BASIC DATA**	MATF0530
486	130 TH(1) = TT(2)		MATF0540
487	TH(2) = TH(31)		MATF0550
488	TH(11) = THD(2)		MATF0560
489	TH(14) = THD(3)		MATF0570
490	TH(15) = THD(4)		MATF0580
491	TH(5) = TH(34)/TH(32)		MATF0590
492	TH(6) = TH(38)		MATF0600
493	TH(9) = TH(41)/TH(38)		MATF0610
494	TH(10) = TH(45)		MATF0620
495	TH(13) = TH(34)		MATF0630
496	TH(12) = TH(46)		MATF0640

08/10/74	INPUT LISTING	AUTOFLON CHART SET - SHEEP	WING AND FEATHERING MODULE
CARD NO	****	CONTENTS	****
487	IF (TH(12)) 131,131,132		MATF0850
488	131 TH(12) = TH(10)		MATF0860
489	132 TH(16) = TH(47)		MATF0870
500	IF (TH(15)) 133,133,134		MATF0880
501	133 TH(16) = TH(12)/1.732051		MATF0890
502	134 TH(17) = TH(48)		MATF0900
503	IF (TH(17)) 135,135,136		MATF0910
504	135 TH(17) = D(2)*TH(6)		MATF0920
505	C		MATF0930
506	C	***MOVE FATIGUE DATA TO TH(18-19) FROM TH(53-54)--ULT***	MATF0940
507	136 TH(18) = TH(53)		MATF0950
508	TH(19) = TH(54)		MATF0960
509	C		MATF0970
510	C		MATF0980
511	C	***FIT DATA N=1 COMP., N= TENS.	MATF0990
512	140 N = ND(1)		MATF0800
513	DO 141 I=1,7		MATF0810
514	TT(1+I) = TH(1+31)		MATF0820
515	141 CONTINUE		MATF0830
516	C		MATF0840
517	142 TT(6) = TT(9)		MATF0850
518	TT(18) = (TT(10) - TT(6))/D(4)		MATF0860
519	TT(7) = TT(6) + TT(18)		MATF0870
520	TT(8) = TT(7)+TT(18)		MATF0880
521	TT(9) = TT(8)+TT(18)		MATF0890
522	TT(5) = TT(11)/TT(6)		MATF0900
523	TT(16) = D(1)/TT(5)		MATF0910
524	TT(17) = TT(10) - TT(16)+TT(15)		MATF0920
525	C		MATF0930
526	C	***DO PT(1,2,5), (1,3,5), (1,4,5)***	MATF0940
527	143 DO 150 K=1,3		MATF0950
528	TH(K+115) = D(13)		MATF0960
529	TT(18) = TT(K+6) - TT(16)+TT(K+11)		MATF0970
530	TT(19) = TT(15) - TT(K+11)		MATF0980
531	C	AI(K), B(K)	MATF0990
532	144 TH(K+112) = ALOC(TT(17)/TT(18))/TT(19)		MATF1000
533	TH(K+109) = EXP(ALOG(TT(18)) - TT(K+11)+TH(K+112))		MATF1010
534	C		MATF1020
535	C	SUM OF ERRORS**2	MATF1030
536	145 TT(20) = D(1)/TT(18) + TH(K+109)+TH(K+112)*EXP(TH(K+112)+TT(11))		MATF1040
537	TT(21) = D(1)- TT(20)+TT(18)		MATF1050
538	TH(K+115) = TT(21)+TT(21)		MATF1060
539	DO 146 I=1,5		MATF1070
540	TT(22) = TT(16)+TT(1+10) + TH(K+109)*EXP(TH(K+112)+TT(1+10))		MATF1080
541	TT(23) = D(1) - TT(22)/TT(1+5)		MATF1090
542	TH(K+115) = TH(K+115) + TT(23)+TT(23)		MATF1100
543	146 CONTINUE		MATF1110
544	C		MATF1120
545	C	***BEST CURVE **	MATF1130
546	147 IF (ND(2) - K) 148,148,148		MATF1140
547	148 IF (TH(K+115) - TT(24)) 149,150,150		MATF1150
548	149 TT(24) = TH(K+115)		MATF1160
549	TT(3) = TH(K+109)		MATF1170
550	TT(4) = TH(K+112)		MATF1180
551	150 CONTINUE		MATF1190
552	C		MATF1200
553	C	***TEST FOR TENSION OR COMPRESSION FIT**	MATF1210
554	IF (N - ND(1)) 151,151,153		MATF1220
555	151 N = ND(2)		MATF1230
556	TH(3) = TT(3)		MATF1240
557	TH(4) = TT(4)		MATF1250
558	DO 152 I=1,7		MATF1260
559	TT(1+I) = TH(1+30)		MATF1270
560	152 CONTINUE		MATF1280
561	GO TO 142		MATF1290
562	C		MATF1300
563	C	***TENSION. MOVE BEFORE EXIT***	MATF1310
564	153 TH(7) = TT(3)		MATF1320
565	TH(8) = TT(4)		MATF1330
566	C		MATF1340
567	C		MATF1350

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06/10/74      INPUT LISTING      AUTOFLON CHART SET - SHEEP  WING AND EMPENNAGE MODULE -

CARD NO      ****      CONTENTS      ****

568          C      MATF1048
569          C      EXIT      MATF1050
570          100 RETURN      MATF1060
571          END      MATF1070
572          C*****
573          C
574          C      *****SUBROUTINE MTLPM*****
575          C      ***MATERIAL PROPERTY DATA PRINT - METAL***
576          C
577          C*****
578          C
579          SUBROUTINE MTLPM      MATL0010
580          C      MATL0011
581          C      MATL PROP. PRINT SUBR      MATL0020
582          C      MATL0050
583          C      MATL0070
584          COMMON T(2060),D(2060),CD(2000),ND(100)      MATL0080
585          C      MATL0090
586          DIMENSION      MATL0100
587          ITH(200),      MATL0110
588          BPH(10),TMD(300),DC(100)      MATL0120
589          C      MATL0130
590          EQUIVALENCE (DC(1),C(140)),      MATL0140
591          I(TH(1),T(134)),I(TH(1),T(104)),      MATL0141
592          Z(RH(1),TMD(205)),      MATL0142
593          Z(VTID,D(209)),      MATL0143
594          B(INCASE,ND(60)),I(INPAGE,ND(85)),      MATL0148
595          B(MATL1,ND(211)),I(NH,ND(26)),I(1,ND(31))      MATL0149
596          C      MATL0150
597          C      ***PRINT TITLES***      MATL0160
598          IF (NH - ND(1)) 101,101,104      MATL0180
599          101 WRITE (6,102)INCASE,MATL1      MATL0185
600          GO TO 105      MATL0190
601          C      MATL0199
602          102 FORMAT (10H1 CASE14,13X,40H ---TORQUE-BOX MATERIAL DATA.      MATMATL0200
603          IL ND,13,4H---,16X,20H** MTLPM - (P(10) **)
604          C      MATL0209
605          103 FORMAT (10H4 CASE14,13X,34H---PIVOT MATERIAL DATA. MATL NO 1MATL0210
606          13,4H---,22X,20H** MTLPM - (P(10) **)
607          C      MATL0219
608          104 WRITE (6,103)INCASE,MATL1      MATL0220
609          C      MATL0229
610          105 WRITE (6,105)I(TH(1),I=1,10)      MATL0230
611          106 FORMAT (10H0A10,1H 0A10)      MATL0235
612          C      MATL0239
613          107 WRITE (6,110)TH(1),TH(11),TH(2)      MATL0240
614          C      MATL0249
615          110 FORMAT(12H0 TEMP.=F(2),2,12H DENSITY=F(7),4,0H MU=F(7),4,0H      MATL0250
616          1 A 0 E      MATL0260
617          2 E(R1) 0(RT) 1      MATL0270
618          111 FORMAT (10H COMPRESSION 1X,2E10.0,3F14.1,1,10H TENSION 10MATL0280
619          1,2E10.0,3F14.1)      MATL0280
620          C      MATL0300
621          WRITE (6,111)TH(3),TH(4),TH(5),TH(14),TH(15),TH(17),TH(6),TH(9)      MATL0310
622          C      MATL0320
623          C      MATL0330
624          112 FORMAT (102H0 EPS(P) EPS(Y) F(P)      MATL0340
625          1 F(2) F(3) F(4) F(5) 1      MAT: 0350
626          113 FORMAT (10H COMPRESSION 1X,2F12.0,5F12.1,1,10H TENSION 10MATL0360
627          1,2F12.0,5F12.1)      MATL0370
628          C      MATL0380
629          120 WRITE (6,112)      MATL0390
630          121 WRITE (6,113)I(TH(1+31),I=1,14)      MATL0400
631          C      MATL0410
632          WRITE (6,122)TH(12),TH(16),TH(17)      MATL0420
633          122 FORMAT (23H0 FTU=F(8),1,0H FSU=F(8),1,7H FBWU=F(8),1)MATL0430
634          C      MATL0440
635          C      ***TEST FOR MIN---IF WIND, PRINT FATIGUE DATA***      MATL0450
636          IF (VTID) 100,13,100      MATL0460
637          130 IF (NH - ND(1)) 131,131,100      MATL0470
638          131 WRITE (6,132)TH(10),TH(19)      MATL0480

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08/10/74      INPUT LISTING      AUTOFLOW CHART SET - SHEEP      WING AND FUSE VAGE MODULE -

CARD NO      ****      CONTENTS      ****

030      132  FORMAT (30H4      FTHAX(ALL01)-B1/2-F6.3,4H FTU,22H MATL0490
040      1 FTHAX(ALL01)-STA 2-F6.3,4H FTU)      MATL0500
041      C      MATL0510
042      C      **EXIT***      MATL0990
043      199  RETURN      MATL0991
044      END      MATL0999

045      C*****
046      C
047      C      *****SUBROUTINE ALOAD*****
048      C      ***DESIGN AIRLOAD DATA PROCESSING***
049      C
050      C*****
051      C
052      SUBROUTINE ALOAD      ALO00010
053      C      ALO00011
054      C      AIRLOAD M, V, CP CALC.      ALO00020
055      C      ALO00030
056      C      ALO00100
057      C      ALO00120
058      C      ALO00140
059      C      COMMON T(2000),D(2000),CD(140),ND(100)      ALO00150
060      C      COMMON /IPRINT/ IP(00)      ALO00151
061      C      COMMON /MISC/ MHISC(100)      ALO00152
062      C      ALO00180
063      C      DIMENSION DC(100),TSEC(300),TDOM(11),T(24),      ALO00170
064      C      IPHZ(11),VPHZ(11),VPHZ(11),ZNNH(11),      ALO00171
065      C      ZALPV(11),ALPH(11),ALNV(11),ALNH(11),      ALO00172
066      C      SCAL(112), TR(17),TG(300),TAND(9),CCLO(9),SIND(6),COSO(6),      ALO00173
067      C      VPHZ(11),ZNNH(11),ALPT(11),ALNT(11),      ALO00174
068      C      SBLD(100),      ALO00175
069      C      BRLD(112),RATIO(204),      ALO00176
070      C      BSTRC(11),BKPR(14)      ALO00178
071      C      ALO00180
072      C      EQUIVALENCE (D(1),D(140)), (TSEC(1),CD(150)), (TDOM(1),T(430)),      ALO00190
073      C      (T(1),T(1317)), (BSTRC(1),TSEC(160)), (DOHD,D(105)),      ALO00191
074      C      Z(PHZ,D(85)), (ZG,D(86)), (DALV,D(255)), (DALCP,D(256)),      ALO00192
075      C      3(DCPD,D(257)), (DCPHL,D(233)), (DENPH,D(232)),      ALO00193
076      C      4(ALOS,D(235)), (ALGAR,D(236)), (ALGTR,D(237)), (ALGB1,D(238)),      ALO00194
077      C      5(PHZ(1),D(260)), (VPHZ(1),D(687)), (VPHZ(1),D(688)), (ZNNH(1),D(709)),      ALO00195
078      C      6), (TAND(1),T(122)), (CCLO(1),T(131)), (SIND(1),T(140)),      ALO00196
079      C      7(ALPV(1),T(594)), (ALPH(1),T(595)), (ALNV(1),T(576)), (ALNH(1),T(587)),      ALO00197
080      C      8), (BKPR(1),D(471)), (DOHD,D(102))      ALO00198
081      C      ALO00199
082      C      EQUIVALENCE (B(2),T(12)), (B(5),T(15)), (B(8P),T(16)), (CR,T(52)),      ALO00200
083      C      (CTIP,T(37)), (TAVAC,T(38)), (INAREA,D(240)), (OPCEA,D(127)),      ALO00201
084      C      Z(CAL(1),D(220)), (TR(1),T(1300)), (TG(1),T(1001)),      ALO00202
085      C      3(PHZ(1),D(1010)), (ZNNH(1),D(1030)),      ALO00203
086      C      4(ALPT(1),T(877)), (ALNT(1),T(888)),      ALO00204
087      C      5(COSO(1),T(146)), (COTEA,T(152)), (ALREF,D(239)),      ALO00205
088      C      6(SBLD(1),D(205)), (SBLD(1),CD(176)), (ACIO,D(1430)),      ALO00206
089      C      7(BRLD(1),CD(1400)), (RATIO(1),CD(532)),      ALO00207
090      C      8(INPAGE,ND(85)), (INSEC,ND(88)),      ALO00208
091      C      9(IN,ND(31)), (K,ND(30)), (I,ND(29)), (LID,ND(54)), (INCAE,ND(60))      ALO00209
092      C      ALO00210
093      C      **MOVE INPUT BLOCK**      ALO00211
094      C      ALO00150
095      C      **SET LOAD RATIO BLOCK=1.0***      ALO00160
096      C      DO 250 I=1,132      ALO00170
097      C      RLOS(I) = D(1)      ALO00180
098      C      250  CONTINUE      ALO00190
099      C      ALO00199
100      C      ALO00200
101      C      **PROCESS CALC LOANS, TEST FOR INPUT**      ALO00210
102      C      *IF CALC, *-IV, M, T) FOR 11 STATIONS STORED ON RCD 32*      ALO00220
103      C      *BLD ARRAY SAME AS DLM ARRAY*      ALO00221
104      C      *1-44=HIND V,M. 45-88=HORI V,M. 89-132=VERT V,M.*      ALO00230
105      C      *133-194=HIND T. 195-176=HORI V,M. 177-199= VERT V,M.*      ALO00231
106      C      *MHISC(2) = TYPE ID. 1=HIND, 2=HORI, 3=VERT*      ALO00240
107      C      ALO00247
108      C      **LOAD CORRECTION RATIO DATA ON RCD 17--204 WORDS***      ALO00248
109      C      *READ RCD AND PROCESS INTO RLOS ARRAY--132 WORDS*      ALO00249

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CARD NO	****	CONTENTS	****
710	C	*RLOS=COMMON FOR WING, HORI, VERT*	AL050250
711	C	*1-33=RATIOS FOR -WZ(WHT), 34-66 FOR -WZ(WHT) AIRLOADS*	AL050251
712	C	*67-99=RATIOS FOR -WZ(WHT), 100-132 FOR -WZ(WHT) DM*	AL050252
713	C		AL050253
714	C	*DATA IN RATIO ARRAY STORED 1-44 WING (+,-V,M) A.L.*	AL050254
715	C	*45-88 VOR (+,-V,M) A.L., 89-132 VERT (+,-V,M) A.L.*	AL050255
716	C	*133-176 WING (+,-V,M) DM*	AL050256
717	C	*177-198 WING (+,-T) A.L., 199-242 WING (+,-T) DM*	AL050257
718	C	*199-220 HORI (+,-T) A.L., 221-242 VERT (+,-T) A.L.*	AL050258
719	C		AL050259
720		200 IF (SLDID) 100,100,201	AL050260
721		201 CALL READPS (1,SLD(1),198,32)	AL050270
722		CALL READPS (1,RATIO(1),264,17)	AL050275
723	C		AL050280
724	C	***DATA STORED TIP-ROOT. MOVE AND SWITCH TO ROOT-TIP***	AL050290
725	C	*FOR WING SET N, NN = 0 *	AL050300
726	C	*FOR HORI SET N=44, NN=22 AND DM RATIO=AL RATIO*	AL050301
727	C	*FOR VERT SET N=88, NN=44 AND DM RATIO=AL RATIO*	AL050302
728		N = DC(3)	AL050310
729		NN = DC(3)	AL050311
730		IF (D(2) - NMISC(2)) 202,203,204	AL050320
731		202 N = 88	AL050330
732		NN = 44	AL050331
733		DO 2020 I=1,22	AL050332
734		RATIO(I+132) = RATIO(I+88)	AL050333
735		RATIO(I+194) = RATIO(I+110)	AL050334
736		RATIO(I+242) = RATIO(I+220)	AL050335
737		2020 CONTINUE	AL050336
738		GO TO 204	AL050340
739		203 N = 44	AL050350
740		NN = 22	AL050351
741		DO 2330 I=1,22	AL050352
742		RATIO(I+132) = RATIO(I+44)	AL050353
743		RATIO(I+194) = RATIO(I+66)	AL050354
744		RATIO(I+242) = RATIO(I+188)	AL050355
745		2030 CONTINUE	AL050356
746	C		AL050359
747		204 DO 205 I=1,11	AL050360
748		K = MD(12) - I	AL050370
749		L = N + I	AL050380
750		LL = NN + I	AL050385
751		ALPV(K) = SLD(L)	AL050390
752		ALPH(K) = SLD(LL+22)	AL050400
753		ALPT(K) = SLD(LL+132)	AL050410
754		ALNV(K) = SLD(L+11)	AL050420
755		ALPH(K) = SLD(LL+33)	AL050430
756		ALNT(K) = SLD(LL+143)	AL050440
757		TDGM(I) = DC(3)	AL050445
758	C		AL050448
759	C	***RATIOS***	AL050449
760		RLOS(K) = RATIO(L)	AL050450
761		RLOS(K+11) = RATIO(L+22)	AL050451
762		RLOS(K+22) = RATIO(LL+176)	AL050452
763		RLOS(K+33) = RATIO(L+11)	AL050455
764		RLOS(K+44) = RATIO(L+33)	AL050454
765		RLOS(K+55) = RATIO(LL+187)	AL050455
766	C		AL050459
767		RLOS(K+66) = RATIO(I+132)	AL050460
768		RLOS(K+77) = RATIO(I+194)	AL050461
769		RLOS(K+88) = RATIO(I+242)	AL050462
770		RLOS(K+99) = RATIO(I+143)	AL050463
771		RLOS(K+110) = RATIO(I+185)	AL050464
772		RLOS(K+121) = RATIO(I+253)	AL050465
773		205 CONTINUE	AL050470
774	C		AL050478
775	C	***SET LID=2 FOR INPUT, GROSS LIMIT LOADS***	AL050480
776		LID = MD(2)	AL050490
777		GO TO 102	AL050500
778	C		AL050510
779		100 DO 101 I=1,11	AL050520
780		ALPV(I) = WPK(I)	AL050530

CARD NO	CONTENTS	AL000248
781	ALPH(1) = PH2H(1)	AL000248
782	ALNV(1) = VHQZ(1)	AL000250
783	ALNH(1) = ZHNM(1)	AL000260
784	ALPT(1) = PH2T(1)	AL000261
785	ALNT(1) = ZHNT(1)	AL000262
786	TDGM(1) = DC(3)	AL000270
787	101 CONTINUE	AL000280
788	C	AL000290
789	C **LOAD REF LINE DATA**	AL000291
790	102 TR(1) = TAND(3)	AL000292
791	TR(15) = CCL0(3)	AL000293
792	TR(16) = SIND(3)	AL000294
793	TR(17) = COS0(3)	AL000295
794	IF (SLD(1) 110,110,114	AL000296
795	C	AL000299
796	C ***TEST LID TO TYPE. 1=V.CP, 2=INPUT CROSS, 3=INPUT NET***	AL000300
797	110 IF (IND(1) - LID) 111,120,120	AL000310
798	C	AL000318
799	C ***INPUT. TEST OPNL OR C-SEC TYPE. M(2)=0.0 FOR C-SEC.***	AL000320
800	C **IF C-SEC TYPE, ADD 1 TO NSEC--ANALYSIS TYPE 10**	AL000321
801	C *NSEC=10 FOR CNSTR SUBR SECTION SKIP TEST.*	AL000322
802	C *1=OPNL TYPE. 2=CONST SEC. OR LOAD, NO AKIP.*	AL000323
803	C *3=CONST SEC. AND CONST LOAD--SKIP AFTER SEC(1) ANALYSIS	AL000324
804	111 IF (PH2H(2)) 114,112,114	AL000330
805	112 NSEC = NSEC + ND(1)	AL000340
806	DO 113 I=1,10	AL000345
807	ALPV(I) = ALPV(I)	AL000350
808	ALPH(I) = ALPH(I)	AL000360
809	ALNV(I) = ALNV(I)	AL000370
810	ALNH(I) = ALNH(I)	AL000380
811	ALPT(I) = PH2T(I)	AL000381
812	ALNT(I) = ZHNT(I)	AL000382
813	113 CONTINUE	AL000390
814	C	AL000391
815	C **TEST FOR LOAD REF NOT ON EA**	AL000392
816	114 IF (ALREF) 1140,110,114	AL000393
817	C	AL000393
818	C **CHECK INPUT NO**	AL000394
819	1140 IF (ALNV(1)) 162,160,162	AL000395
820	C	AL000395
821	C **LOAD REF. INPUT PER CENT CHORD.**	AL000396
822	C **SETUP EQUATION CONSTANTS FOR LD. ROTATION/TRANSLATION**	AL000397
823	1141 TR(15) = ALRE *CCL0(7) + CCL0(1)	AL000398
824	TR(14) = TAND(1) - T(3)*ALREF	AL000399
825	TR(17) = D(1)/SORT(D(1))+TR(14)*TR(14)	AL000400
826	TR(16) = TR(17)*TR(14)	AL000401
827	IF (ALNV(1)) 163,160,163	AL000405
828	C	AL000408
829	C	AL000410
830	C ***SHEAR CP TYPE. CALC V.H. TEST AL00041, INPUT V,CP***	AL000420
831	120 TDGM(8) = DALV	AL000430
832	TDGM(9) = DALCP	AL000440
833	TDGM(10) = DCPD	AL000450
834	TT(1) = WAREA	AL000460
835	TT(2) = B02	AL000470
836	TT(3) = B51	AL000480
837	TT(5) = TANAC	AL000500
838	TT(6) = CR	AL000510
839	TT(7) = CTIP	AL000520
840	IF (ALOS) 122,122,121	AL000530
841	C	AL000539
842	C ***SEPARATE WIND GEOM. FOR AIR LOADS.***	AL000540
843	121 TT(1) = ALOS	AL000550
844	TT(2) = D(19)*SORT(ALOS*ALGAR1)*D(12)	AL000560
845	TT(3) = ALOS1/D(12)	AL000565
846	TT(6) = ALOS/TT(2)*D(17)/(D(1) + ALQTR)	AL000580
847	TT(7) = TT(6)*ALQTR	AL000600
848	TT(5) = TT(7) - TT(6)/TT(2)	AL000610
849	C	AL000619
850	C ** EXPOSED TR AND S. TEST FOR INPUT V **	AL000620
851	122 TT(8) = TT(6) + TT(3)*TT(5)	AL000630

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	****	CONTENTS	****
052	TT(4) = TT(2) - TT(3)		AL000635
053	TT(9) = TT(7)/TT(1)		AL000640
054	TT(10) = (TT(7) + TT(8))/D(17)*TT(4)		AL000650
055	IF (DALV) 123,123,124		AL000660
056	C		AL000669
057	C	* CALC VIERP *	AL000670
058	123 TT(11) = TT(10)/TT(1)		AL000680
059	TT(12) = TT(4)/TT(2)		AL000690
060	TT(13) = TT(11)/TT(12)		AL000700
061	TT(14) = D(11)/TT(13)**DCNPV		AL000710
062	TT(15) = DGM*PNZ/TT(1)		AL000720
063	TT(16) = TT(15)*TT(14)		AL000730
064	TDM(8) = TT(16)*TT(10)/D(2)		AL000740
065	C		AL000749
066	C	**TEST SPANWISE C.P.**	AL000750
067	C	B=ASSUME. --REF TO B/2. --REF TO EXP. B/2	AL000760
068	124 IF (DALCP) 129,125,127		AL000770
069	125 TT(17) = TT(9)		AL000780
070	IF (DCPKL) 133,133,126		AL000790
071	126 TT(17) = TT(9)*DCPKL		AL000800
072	GO TO 133		AL000810
073	C		AL000819
074	C	***INPUT C.P. TEST B.P. OR PER CENT EXP. SPAN***	AL000820
075	127 IF (D(1) - DALCP) 129,129,140		AL000830
076	129 TDM(9) = DALCP/TT(4)		AL000840
077	GO TO 140		AL000850
078	C		AL000859
079	C	***INPUT C.P. REF TO B/2. TEST B.P. OR PER CENT.***	AL000860
080	129 TDM(9) = ABS(DALCP)		AL000870
081	IF (D(1) - TDM(9)) 130,130,131		AL000880
082	130 TDM(9) = TDM(9)/TT(2)		AL000890
083	131 TT(18) = (D(3)*TDM(9) - D(11))/D(2) - D(3)*TDM(9)		AL000900
084	TT(19) = TDM(9)/(TT(2)*D(1) + TT(11)*D(2)		AL000910
085	TT(20) = TT(19)*TT(18)		AL000920
086	TT(21) = (TT(20) - TT(19)*TT(3)/TT(2) + TT(19)		AL000930
087	TT(17) = TT(20)/TT(2)		AL000940
088	IF (DCPKL) 133,133,132		AL000945
089	132 TT(17) = TT(17)*DCPKL		AL000946
090	133 TDM(9) = (D(1)*TT(17) + TT(17))/D(3) + D(3)*TT(17)		AL000950
091	C		AL000960
092	C	**TEST FOR CHORDWISE CP**	AL000970
093	C	*FOR INPUT CPX=0, USE .25C DATA*	AL000980
094	140 IF (DCPCD) 141,141,142		AL000990
095	141 TR(14) = TAND(6)		AL001000
096	TR(15) = CCLO(6)		AL001010
097	TR(16) = SIND(6)		AL001020
098	TR(17) = COSO(6)		AL001030
099	GO TO 150		AL001040
100	C		AL001050
101	C	LOAD REF LINE DATA	AL001059
102	142 TR(14) = TAND(1) - T(3)*TDM(10)		AL001060
103	TR(15) = TDM(10)*CCLO(17) + CCLO(1)		AL001061
104	TR(17) = D(1)/SORT(D(1) + TR(14)*TR(14))		AL001062
105	TR(16) = TR(14)*TR(17)		AL001063
106	C		AL001069
107	C	**CONSTANTS A AND B FOR AL(V,M) CALC AT LD. REF LINE**	AL001070
108	150 TT(18) = TT(2)*.050(3)		AL001071
109	TT(21) = TT(4)/COSO(3)		AL001072
110	TT(19) = TDM(8)/TT(21)*D(1) - D(2)*TDM(9)/TT(21)		AL001073
111	TT(20) = TDM(8)/TT(21)*D(3)*TDM(9) - D(1)		AL001074
112	C		AL001077
113	C	**TWO SETS OF CONC. AIRLOADS**	AL001078
114	C	*REF. LINE=LOAD REF. TORQUE ARM TO LD REF LINE**	AL001079
115	DO 1500 I=1,12		AL001080
116	TR(I) = DC(3)		AL001081
117	1500 CONTINUE		AL001082
118	DO 151 I=1,2		AL001083
119	N = I*ND(6) - ND(6)		AL001084
120	IF (CALIN) 151,151,1501		AL001085
121	1501 TR(I) = CALIN*(I)		AL001086
122	IF (TR(I) - D(2)) 1502,1502,1503		AL001087

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
923	1502 TR(1) = TR(1)*BOZ		AL001088
924	1503 TR(13) = TR(1)*TT(5) + TT(6)		AL001089
925	TR(1+2) = TR(1)*TAND(1) + CCLD(1)		AL001090
926	TT(24) = CAL(14)+2		AL001091
927	IF (TT(14) - 0(1)) 1504,1504,1505		AL001092
928	1504 TT(24) = TT(24)+TR(13)		AL001093
929	1505 TR(1+2) = TR(1+2) + TT(24)		AL001094
930	TR(1+6) = CAL(14)+3		AL001095
931	TR(1+8) = CAL(14)+4		AL001096
932	TR(1+10) = CAL(14)+5		AL001097
933	C		AL001097
934	C	*ID=1 FOR INPUT AERO, ID=2 FOR INPUT SHEET LOADS*	AL001098
935	IF (CAL(14) - 0(1)) 1506,1506,1507		AL001099
936	1506 TR(1+8) = CAL(14)+4*TR(17) - CAL(14)+5*TR(16)		AL001100
937	TR(1+10) = CAL(14)+5*TR(17) + CAL(14)+4*TR(16)		AL001101
938	C		AL001101
939	C	*LAMBDA STATION AT EA, DELTA X TO LOAD REF LINE*	AL001102
940	1507 TR(1+4) = TR(1)		AL001103
941	TR(13) = TR(1)+TR(14) + TR(15) - TR(1+2)		AL001104
942	IF (TAND(3)) 1508,1509,1508		AL001105
943	1508 TR(13) = TR(1+2) - COTEA*TR(1)		AL001106
944	TR(1+4) = (TR(13) - CCLD(3))/(TAND(3) - COTEA/COSD(3))		AL001107
945	TR(13) = (TR(1) - (TR(13)-TR(15))/(TR(14)-COTEA)/SIND(3))		AL001108
946	1509 TR(1+10) = TR(1+10) + TR(1+6)*TR(13)		AL001109
947	151 CONTINUE		AL001110
948	C		AL001111
949	C	*CALC V,M,T AT 11 STATIONS ON LOAD REF LINE**	AL001112
950	1510 DO 1512 N=1,11		AL001115
951	K = MD(12) - N		AL001120
952	TT(22) = DC(3)		AL001125
953	TT(23) = DC(3)		AL001130
954	TT(24) = DC(3)		AL001135
955	DO 1512 I=1,2		AL001140
956	TR(13) = TR(1+4) - YSTRC(N)		AL001145
957	IF (TR(13)) 1512,1511,1511		AL001150
958	1511 TT(22) = TT(22) + TR(1+6)		AL001160
959	TT(23) = TT(23) + TR(1+6)*TR(13) + TR(1+8)		AL001170
960	TT(24) = TT(24) + TR(1+10)		AL001175
961	1512 CONTINUE		AL001180
962	TR(13) = TT(18) - YSTRC(N)		AL001185
963	ALPV(K) = TR(13)*(D(3)+TT(19)*TR(13) + TT(20) + TT(21) + TT(22))		AL001190
964	ALPH(K) = TR(13)*TR(13)*(TT(19)*TR(13) + TT(20) + TT(23))		AL001195
965	ALPT(K) = TT(24)		AL001200
966	152 CONTINUE		AL001205
967	C		AL001209
968	C		AL001209
969	C	*DO NEG LOAD FACTOR**	AL001210
970	C	***TEST FOR INPUT RATIO. D(382)***	AL001211
971	160 TT(24) = ZDZ/PHZ		AL001220
972	IF (CDOOL) 1600,1601,1600		AL001221
973	1600 TT(24) = ABS(CDOOL)		AL001222
974	1601 DO 161 N=1,11		AL001230
975	ALMV(N) = TT(24)*ALPV(N)		AL001240
976	ALMH(N) = TT(24)*ALPH(N)		AL001250
977	ALMT(N) = TT(24)*ALPT(N)		AL001251
978	161 CONTINUE		AL001255
979	C		AL001260
980	C	*ROTATE AND TRANSLATE LOADS TO EA REF.**	AL001261
981	162 IF (TAND(3) - TR(14)) 163,169,163		AL001262
982	163 TT(22) = COTEA - TR(14)		AL001263
983	DO 166 N=1,11		AL001264
984	TT(23) = ALPH(N)*TR(17) + ALPT(N)*TR(18)		AL001265
985	TT(24) = ALPT(N)*TR(17) - ALPH(N)*TR(18)		AL001266
986	ALPH(N) = TT(23)*COSD(3) - TT(24)*SIND(3)		AL001267
987	ALPT(N) = TT(24)*COSD(3) + TT(23)*SIND(3)		AL001268
988	TT(23) = ALPH(N)*TR(17) + ALMT(N)*TR(18)		AL001269
989	TT(24) = ALMT(N)*TR(17) - ALPH(N)*TR(18)		AL001270
990	ALMH(N) = TT(23)*COSD(3) - TT(24)*SIND(3)		AL001271
991	ALMT(N) = TT(24)*COSD(3) + TT(23)*SIND(3)		AL001272
992	TR(13) = TO(N+22) - TO(N+11)*TR(14) - TR(15)		AL001273
993	IF (TAND(3)) 164,165,164		AL001274

CARD NO	CONTENTS	ALOAD
994	104 TR(13) = (TR(15) - TG(1) * 33) / TT(22) - TG(1) * 11) / SIND(3)	AL001275
995	105 ALPT(N) = ALPT(N) + ALPV(N) * TR(13)	AL001276
996	ALNT(N) = ALNT(N) + ALNV(N) * TR(13)	AL001277
997	106 CONTINUE	AL001278
998	C	AL001279
999	C ***BK PRINT ON IP 20***	AL001280
1000	109 IF (IP(20) = 170, 170, 199)	AL001290
1001	C	AL001299
1002	170 WRITE (6, 171) NCASE, DGHD, PHZ, ZHZ	AL001310
1003	171 FORMAT (1H, 5X, 4NCASE, 14, 20X, 32H ***BASIC LIMIT AIRLOAD DATA***,	
1004	1 24X, 20H ** ALOAD = IP(20) **** 1H, 10X, 5DGHD =, F6.1, 6H *HZ*,	
1005	2 F6.3, 6H *HZ*, F6.3)	
1006	C	AL001329
1007	172 FORMAT (10H 4X, 15H LB/SIDE CP(Y) = F6.4, 12H B / 2 CP(X) = F6.4, AL001330	
1008	18H C(1))	AL001340
1009	IF (LIC = 0(1)) 173, 173, 176	AL001350
1010	173 WRITE (6, 172) TCGH(8), TCGH(9), TCGH(10)	AL001360
1011	174 FORMAT (10H 4X, 15H STA + V(LIM) + H(LIM) + T(LIM) - V(LIM)	AL001370
1012	1 - H(LIM) - T(LIM))	AL001371
1013	175 FORMAT (1H 4X, 13, F10.1, F13.1, F12.1, F11.1, F13.1, F12.1)	AL001380
1014	176 WRITE (6, 174)	AL001385
1015	DO 177 N = 1, 11	AL001390
1016	WRITE (6, 175) N, ALPV(N), ALPH(N), ALPT(N), ALNV(N), ALNP(N), ALNT(N)	AL001400
1017	177 CONTINUE	AL001410
1018	C	AL001420
1019	178 FORMAT (10H 4X, 15H TT)	AL001420
1020	179 FORMAT (1H 4X, 5C10.0)	AL001421
1021	WRITE (6, 178)	AL001430
1022	DO 180 N = 1, 21, 5	AL001440
1023	K = N * ND(4)	AL001450
1024	WRITE (6, 179) N, TT(1), 1 + N, K, 1)	AL001460
1025	180 CONTINUE	AL001470
1026	C	AL001478
1027	C ***RATIO TABLE***	AL001479
1028	WRITE (6, 181)	AL001480
1029	181 FORMAT (11H 36X, 28H ***LOADS SCALING RATIOS*** // 21X,	
1030	1 14H AIRLOAD RATIOS, 30X, 17H DEADWEIGHT RATIOS/	
1031	1 102H STA R(+V) R(+H) R(+T) R(1) AL001491	
1032	2-V) R(-H) R(-T) R(+V) R(+H) R(+T) R(-V) R(-H) R(1) AL001492	
1033	3-T)	AL001493
1034	182 FORMAT (1H 13, 8F6.4, 2X, 8F6.4)	AL001500
1035	C	AL001509
1036	DO 183 N = 1, 11	AL001510
1037	WRITE (6, 182) N, RLD(N), RLD(N+11), RLD(N+22), RLD(N+33), RLD(N+44), AL001520	
1038	1, RLD(N+55), RLD(N+66), RLD(N+77), RLD(N+88), RLD(N+99), RLD(N+110), AL001521	
1039	2), RLD(N+121)	AL001522
1040	183 CONTINUE	AL001530
1041	C	AL001540
1042	C ***EXIT***	AL001590
1043	199 RETURN	AL001598
1044	END	AL001599
1045	C*****	
1046	C	
1047	C *****SUBROUTINE GJAL*****	
1048	C ***READ FLUTTER GJ EVALUATION AND CONTROL***	
1049	C	
1050	C*****	
1051	C	
1052	SUBROUTINE GJAL	GJAL0010
1053	C	GJAL0030
1054	GJ(V) CALC. CONTROL SUBR.	GJAL0020
1055	C ***GJRD(1-11) = ROOT-TIP, GJRT(1-11) = TIP-ROOT***	GJAL0080
1056	C *GJRT(1-11) = ROOT-TIP, T-TAIL GJ CALC BY SUBR GJTT*	GJAL0100
1057	C	GJAL0110
1058	C	GJAL0130
1059	COMMON TCON(6220)	GJAL0140
1060	COMMON /PRINT/ IP(80)	GJAL0141
1061	C	GJAL0150
1062	DIMENSION T(2060), D(2060), CD(2000), MD(100), DC(100), TSEC(300), GJAL0160	
1063	ITVF(100), TT(24), TBJ(200),	GJAL0161
1064	ZYS(11), TBH(11), TBO(11), TBC(11),	GJAL0162

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
1005	30JROD(11),DOJ(11),GJR(11),GJTT(11),		GJCA0163
1006	SDTLB(19)		GJCA0168
1007	C		GJCA0170
1008	EQUIVALENCE (1(1),TCOH(11), 10(1),TCOH(206(11), 10(1),TCOH(412(11),GJCA0181		
1009	1, 1ND(1),TCOH(612(11)		GJCA0182
1070	C		GJCA0200
1071	EQUIVALENCE (DC(1),D(140(11),TSEC(1),CD(150(11),ITT(1),T(1317(11),		GJCA0210
1072	1(TVF(1),T(198(11),TOJ(1),T(176(11),IDTLB(1),T(201(11),		GJCA0211
1073	2(GJROD(1),T(668(11),DOJ(1),D(1346(11),GJR(1),TSEC(67(11),		GJCA0212
1074	3(YS(1),TOJ(27(11),ITBH(1),TOJ(38(11),ITBD(1),TOJ(49(11),		GJCA0213
1075	4(TBC(1),TOJ(60(11),TARG(1),TOJ(21(11),BS02(1),TOJ(18(11),BCXP(1),TOJ(18(11),		GJCA0214
1076	5(BPS02(1),TOJ(10(11),BS102(1),TOJ(11(11),CB1(1),TOJ(12(11),DB1(1),TOJ(13(11),		GJCA0215
1077	6(TRP(1),TOJ(14(11),TCP(1),TOJ(15(11),TSTOP(1),TOJ(16(11),TAU(1),TOJ(17(11),		GJCA0216
1078	7(IRSFS(1),TOJ(18(11),TAC(1),TOJ(24(11),TCEA(1),TOJ(20(11),TSENA(1),TOJ(19(11),		GJCA0217
1079	8(ATIP(1),D(318(11),TART(1),D(317(11),GRT(1),D(15(11),		GJCA0218
1080	9(WFID(1),D(251(11),VTID(1),D(209(11),TTID(1),D(357(11),TTWFO(1),D(338(11)		GJCA0219
1081	C		GJCA0220
1082	EQUIVALENCE (WFK(1),TOJ(71(11),WFO(1),TOJ(72(11),WFO(1),TOJ(73(11),		GJCA0230
1083	1(WFT(1),TOJ(74(11),GJFAC(1),TOJ(75(11),		GJCA0231
1084	2(GJY(1),TOJ(76(11),GJY0(1),TOJ(77(11),GJY1(1),D(134(11),GJY0(1),D(136(11),		GJCA0232
1085	3(DTTPVT(1),D(200(11),WDTTP(1),T(196(11),WFDG(1),T(197(11),		GJCA0233
1086	4(TTWT(1),D(335(11),		GJCA0234
1087	5(GJRTT(1),T(868(11)		GJCA0239
1088	C		GJCA0240
1089	C ***READ GJ CALC GEOMETRY DATA FROM RCD 10***		GJCA0250
1090	CALL READMS (1,TOJ(11),200,101		GJCA0260
1091	C		GJCA0268
1092	C ***SAVE FLUTTER TEMP AND G. CHECK IF G-RATIO***		GJCA0269
1093	WDTTP = WFT		GJCA0270
1094	IF (WFO - D(10(11) 1000,1000,1001		GJCA0280
1095	1000 WFO = WFO*ORT		GJCA0290
1096	1001 WFDG = WFO		GJCA0300
1097	C		GJCA0309
1098	C		GJCA0310
1099	C SETUP CONST. DATA AND CONTROL 10		GJCA0320
1100	C **10 = 1 FOR FIXED WING PASS**		GJCA0321
1101	100 N=ND(2)		GJCA0330
1102	10 = ND(1)		GJCA0335
1103	DO 101 I=1, 11		GJCA0340
1104	GJR(1) = DC(3)		GJCA0350
1105	GJROD(1) = DC(13)		GJCA0355
1106	101 CONTINUE		GJCA0360
1107	C		GJCA0361
1108	C **CLEAR TVF ARRAY**		GJCA0362
1109	DO 1010 I=1,100		GJCA0363
1110	TVF(I) = DC(3)		GJCA0364
1111	1010 CONTINUE		GJCA0365
1112	C		GJCA0369
1113	C TEST FOR TYPE OF ANALYSIS 1-1=CONST. GJ CONTROL		GJCA0370
1114	IF (WFD) 110,200,102		GJCA0380
1115	102 N=ND(1)		GJCA0390
1116	103 IF (D(11) - WFD) 104,1006,1006		GJCA0400
1117	C		GJCA0408
1118	C INPUT J OR GJ		GJCA0410
1119	104 DO 105 I=1,11		GJCA0420
1120	K=ND(12) - 1		GJCA0430
1121	GJROD(I) = DOJ(I)*GJFAC		GJCA0440
1122	GJRK(I) = GJROD(I)		GJCA0450
1123	105 CONTINUE		GJCA0460
1124	GO TO 200		GJCA0470
1125	C		GJCA0480
1126	C TEST FOR VERTICAL AND THEN T-TAIL		GJCA0481
1127	1006 IF (VTID) 110,110,106		GJCA0482
1128	106 IF (TTID) 110,110, 107		GJCA0483
1129	107 CALL GJTT		GJCA0484
1130	C		GJCA0488
1131	C ***SAVE JIT-TAIL AND GJT-TAIL***		GJCA0487
1132	C ***CHECK IF INPUT G IS RATIO OR G***		GJCA0487
1133	TT(12) = TTWFO		GJCA0488
1134	IF (TTWFO - D(10(11) 100,100,100		GJCA0489
1135	100 TT(12) = TTWFO*ORT		GJCA0490

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1136	109 TV(13) = TV(1)		QJCA0491
1137	DO 1090 I=1,11		QJCA0492
1138	TV(11) = QJRTT(11)		QJCA0493
1139	1090 CONTINUE		QJCA0494
1140	C		QJCA0498
1141	C CALC GJ. SETUP GEOMETRIC DATA		QJCA0499
1142	110 TV(15) = WQ		QJCA0500
1143	TV(2) = WQ		QJCA0505
1144	TV(16) = TAU		QJCA0510
1145	TV(17) = BP502		QJCA0520
1146	TV(18) = CB1		QJCA0530
1147	TV(19) = DB1		QJCA0540
1148	TV(47) = TRP		QJCA0550
1149	TV(86) = ARG		QJCA0560
1150	TV(74) = CB1*TRP		QJCA0570
1151	TV(75) = CB1		QJCA0580
1152	TV(43) = S1OP		QJCA0590
1153	TV(44) = RSFS		QJCA0600
1154	TV(45) = TCP		QJCA0610
1155	TV(46) = AC		QJCA0620
1156	C		QJCA0630
1157	C ***EXPOSED MAC***		QJCA0640
1158	TV(155) = TV(74) + TV(75)		QJCA0650
1159	TV(76) = D(2)*(TV(76) - TV(74)*TV(75)/TV(76))/D(3)		QJCA0660
1160	C		QJCA0670
1161	C		QJCA0690
1162	111 TV(92) = TV(46)*TV(45)		QJCA0650
1163	TV(41) = D(11) - TV(47)		QJCA0660
1164	TV(42) = D(11)-TV(43)		QJCA0670
1165	TV(33) = TV(43)*TV(47)		QJCA0680
1166	TV(40) = D(11)-TV(33)		QJCA0690
1167	TV(37) = D(11)/DC(42)		QJCA0900
1168	TV(36) = TV(37)		QJCA0910
1169	IF(TV(40)) 113,114,115		QJCA0920
1170	C		QJCA0930
1171	113 TV(37) = D(11)/TV(33)		QJCA0940
1172	114 DO 119 I=1,2		QJCA0950
1173	TV(11+33) = TV(11+32)*TV(33)		QJCA0960
1174	TV(11+47) = TV(11+46)*TV(47)		QJCA0970
1175	IF (TV(11+39)) 119,115,119		QJCA0980
1176	115 TV(11+39) = DC(42)		QJCA0990
1177	119 CONTINUE		QJCA1000
1178	C		QJCA1010
1179	120 TV(32)=D(11)		QJCA1020
1180	IF (TV(47)) 1201,1201,1200		QJCA1030
1181	1200 TV(36) = D(11)/TV(47)		QJCA1040
1182	1201 TV(30) = TV(40)		QJCA1050
1183	TV(39) = TV(40)/D(3)		QJCA1060
1184	TV(90) = TV(41)*TV(44)		QJCA1070
1185	TV(91) = TV(40)*TV(92)		QJCA1080
1186	C		QJCA1089
1187	C CD3, CD2		QJCA1090
1188	121 TV(89) = D(3)*TV(47)/TV(41)*TV(42)		QJCA1100
1189	TV(30) = TV(89)*TV(89)		QJCA1110
1190	TV(31) = D(3)*TV(89)/D(2)		QJCA1120
1191	C		QJCA1129
1192	C C1, C2		QJCA1130
1193	122 TV(88) = TV(41)/TV(40)		QJCA1140
1194	TV(16) = TV(88)*TV(88)/D(3)*TV(88)/TV(91)		QJCA1150
1195	C		QJCA1169
1196	TV(7) = D(11)/TV(90)		QJCA1160
1197	C		QJCA1170
1198	123 TV(87) = -ATIP/(ART-ATIP)		QJCA1180
1199	TV(85) = ALOC (TV(33))/TV(91)		QJCA1190
1200	TV(86) = ALOC (TV(47))/TV(90)		QJCA1200
1201	TV(8) = TV(87)*(TV(85)+TV(86))		QJCA1210
1202	C		QJCA1219
1203	C K01, K5AP		QJCA1220
1204	124 TV(4) = TV(10)*TV(16)/D(3)*TV(16)/TV(41)		QJCA1230
1205	C		QJCA1238
1206	C ***SIN, COS OF IEA - 10 DEGREES***		QJCA1239

06/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
1207	TVF(84) = COSCA*DC(38) + SINEA*DC(39)		GJCAI240
1208	TVF(13) = (TVF(84)*DC(37) + DC(36))*TVF(17)**2		GJCAI250
1209	C		GJCAI260
1210	C		GJCAI309
1211	126 TVF(83) = ARG + DC(35)		GJCAI310
1212	TVF(12) = TVF(12)*DC(32)/DC(33)*(ARG/TVF(83))**2*DC(34)		GJCAI320
1213	TVF(84) = GJFAC*VK**2*DC(41)		GJCAI330
1214	TVF(12) = TVF(12)*TVF(84)		GJCAI340
1215	C		GJCAI349
1216	C K(8)		GJCAI350
1217	128 TVF(5) = TVF(2)*TVF(14)/TVF(15)*TVF(3)		GJCAI360
1218	C		GJCAI370
1219	C		GJCAI380
1220	C SETUP STATION MAG. FACTORS		GJCAI390
1221	C **GJR(1-11)*K(6J) ROOT-T/P**		GJCAI391
1222	150 TVF(26) = DC(13)		GJCAI400
1223	TVF(25) = B502		GJCAI410
1224	DO 151 1=1,11		GJCAI420
1225	GJR(1)=D(1)		GJCAI430
1226	151 CONTINUE		GJCAI440
1227	IF (N-NO(1)) 152,152,160		GJCAI450
1228	C		GJCAI460
1229	C TEST D(348) FOR 0.0 FOR K=1 OR CALC.		GJCAI470
1230	152 IF (DOJ(1)) 156,156,153		GJCAI480
1231	C		GJCAI489
1232	C INPUT K(1) IF INPUT = 0.0 U/L 1.0		GJCAI490
1233	153 DO 195 1=1,11		GJCAI500
1234	IF (DOJ(1)) 196,196,194		GJCAI510
1235	194 GJR(1) = DOJ(1)		GJCAI520
1236	196 CONTINUE		GJCAI530
1237	GO TO 210		GJCAI540
1238	C		GJCAI550
1239	C TEST FOR CALC OF K(1)		GJCAI560
1240	156 IF (GJY1+GJK1) 210,210,160		GJCAI570
1241	C SETUP YS(1), YS(10) Y(INPUT)-BP OR P.C. EXP. 8		GJCAI580
1242	160 IF (GJY1) 164,164,161		GJCAI590
1243	161 TVF(25) = GJY1		GJCAI600
1244	IF (TVF(25)-D(1)) 162,162,163		GJCAI610
1245	162 TVF(25) = TVF(25)*BEXP + B5102		GJCAI620
1246	163 TVF(25) = B502 - TVF(25)/COSEA		GJCAI630
1247	C		GJCAI649
1248	C Y(8)		GJCAI640
1249	164 IF (GJYD) 170,170,165		GJCAI650
1250	165 TVF(26) = GJYD		GJCAI660
1251	IF (TVF(26) - D(2)) 166,166,167		GJCAI670
1252	166 TVF(26) = TVF(26)*BEXP + B5102		GJCAI680
1253	167 TVF(26) = B502 - TVF(26)/COSEA		GJCAI690
1254	C		GJCAI700
1255	170 IF (N - NO(1)) 171,171,200		GJCAI710
1256	C		GJCAI720
1257	C K(15A) = K(1), K(1-D), K(10)		GJCAI730
1258	171 TVF(80) = GJK1		GJCAI740
1259	TVF(81) = GJK0		GJCAI750
1260	TVF(79) = TVF(25) - TVF(26)		GJCAI760
1261	TVF(78) = (TVF(80) - TVF(81))/TVF(79)		GJCAI770
1262	TVF(78) = TVF(81) - TVF(26)*TVF(78)		GJCAI780
1263	C		GJCAI790
1264	172 DO 179 1=1,11		GJCAI800
1265	GJR(1) = TVF(80)		GJCAI810
1266	IF (YS(1)-TVF(25)) 173,179,179		GJCAI820
1267	173 GJR(1) = TVF(81)		GJCAI830
1268	IF (TVF(26)-YS(1)) 174,179,179		GJCAI840
1269	174 GJR(1) = YS(1)*TVF(78)+TVF(79)		GJCAI850
1270	179 CONTINUE		GJCAI860
1271	GO TO 210		GJCAI870
1272	C		GJCAI880
1273	C		GJCAI890
1274	C		GJCAI900
1275	C SETUP CONTROL FOR GJ RECD. CALC.		GJCAI910
1276	C CONST GJ TEST POINTS.		GJCAI920
1277	200 TVF(24) = D(1)		GJCAI930

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEET	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1278		TF(193) = TF(118)*TF(117)	GJCA1940
1279		TF(100) = TF(118)*TF(147)	GJCA1950
1280		TF(199) = TF(193)*TF(141)	GJCA1960
1281		TF(198) = TF(100)*TF(192)*TF(143)	GJCA1970
1282		TF(197) = TF(193)*TF(191)	GJCA1980
1283		TF(196) = TF(100)*TF(144)	GJCA1990
1284		TF(195) = TF(193)*TF(190)	GJCA2000
1285	C		GJCA2010
1286	202	DO 209 I=1,2	GJCA2020
1287		TF(120) = TF(11)*24	GJCA2030
1288	C		GJCA2039
1289	C	COMPUTE C,H,D AT Y(1)	GJCA2040
1290		TF(121) = TF(120)*TF(199) + TF(100)	GJCA2050
1291		TF(122) = TF(120)*TF(197) + TF(198)	GJCA2060
1292		TF(123) = TF(120)*TF(195) + TF(196)	GJCA2070
1293	C		GJCA2079
1294	C	COMPUTE GJ(1,0)	GJCA2080
1295		CALL GJ51	GJCA2090
1296		TF(11*25) = TF(1)	GJCA2100
1297	209	CONTINUE	GJCA2110
1298	C		GJCA2120
1299	C	SETUP FOR 11 POINT ANALYSIS	GJCA2130
1300	211	DO 219 I=1,11	GJCA2140
1301	C		GJCA2150
1302		TF(120) = YS(1)	GJCA2160
1303		IF (IND(1) - N) 211,213,213	GJCA2170
1304	C		GJCA2179
1305	C	CONST GJ CONTROL - TEST INBD Y, OUTBD Y FROM TIP.	GJCA2180
1306	211	TF(1) = TF(27)	GJCA2190
1307		IF (TF(120)-TF(125)) 212,218,218	GJCA2200
1308	212	TF(1) = TF(28)	GJCA2210
1309		IF (TF(126)-TF(120)) 213,218,218	GJCA2220
1310	C		GJCA2229
1311	C	COMPUTE GJ AT Y(1) --SETUP K,H,D,C	GJCA2230
1312	213	TF(21) = TBC(1)	GJCA2240
1313		TF(22) = TBD(1)	GJCA2250
1314		TF(23) = TBN(1)	GJCA2260
1315		TF(24) = GJR(1)	GJCA2270
1316	214	CALL GJ51	GJCA2280
1317	218	GJROD(1) = TF(1)	GJCA2290
1318	C		GJCA2300
1319	C	***TEST FOR PRINT--PRINT ONLY ROOT SECTION DATA***	GJCA2310
1320	C	PRINT ON 'P'22)	GJCA2320
1321		IF (1 - ND(1)) 215,215,219	GJCA2330
1322	215	IF (IP(22)) 2150,2150,219	GJCA2340
1323	2150	WRITE (6,2151)WQ,WFT,WFO,WK,GJFAC	GJCA2350
1324	2151	FORMAT (3H) ---FLUTTER ANALYSIS DATA---,50X,20H** GJCAL - 1PGJCA2360	
1325	11221	****10H WFO=F7.1,BH WFT=F7.1,BH WFO=F10.1,BH WK=F7.4GJCA2370	
1326	2,BH GJFAC=F7.4,///BH TF1		GJCA2380
1327	2152	FORMAT (8H) TQJ	GJCA2390
1328	2153	FORMAT (1H 2X,13 SE18.0)	GJCA2400
1329	C		GJCA2410
1330		DO 2195 J=1,100,5	GJCA2420
1331		JJ = J + ND(4)	GJCA2430
1332		WRITE (6,2153)J,(TF1K),K=J,JJ,1)	GJCA2440
1333	2194	CONTINUE	GJCA2450
1334	C		GJCA2460
1335		WRITE (6,2152)	GJCA2470
1336		DO 2195 J=1,100,5	GJCA2480
1337		JJ = J + ND(4)	GJCA2490
1338		WRITE (6,2153)J,(TQJ1K),K=J,JJ,1)	GJCA2500
1339	2195	CONTINUE	GJCA2510
1340	C		GJCA2520
1341	219	CONTINUE	GJCA2530
1342	C		GJCA2540
1343	C		GJCA3000
1344	C	***CHECK FOR J COMPARISON--WING AND T-TAIL***	GJCA3010
1345	C	***CHECK IF WING FOR V/SMP PASS, IF RECD***	GJCA3020
1346	250	IF (VT10) 280,252,251	GJCA3030
1347	C		GJCA3040
1348	C	***V-TAIL--CHECK FOR T-TAIL**	GJCA3050

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SWEEP	WING AND EMPENNAGE MODULE -
1349	251 IF (TT(1)) 200,200,200		GJCA3060
1350	C		GJCA3070
1351	C **WING--CHECK ID FOR 1 IF=1, CHECK FOR V/SWP**		GJCA3080
1352	252 IF (ID - MD(1)) 253,253,250		GJCA3090
1353	253 IF (IDPVT) 200,200,254		GJCA3100
1354	254 IF (TGJ(101)) 200,200,255		GJCA3110
1355	C		GJCA3120
1356	C **CHECK AFT POSITION. MOVE TGJ(101-200) TO	1**	GJCA3130
1357	C * SET ID TO 2, SAME GJROD(1-11), 0		GJCA3140
1358	255 ID = MD(2)		GJCA3150
1359	TT(12) = TGJ(73)		GJCA3160
1360	TT(13) = TGJ(74)		GJCA3170
1361	DO 256 1=1,100		GJCA3180
1362	TGJ(1) = TGJ(1+100)		GJCA3190
1363	256 CONTINUE		GJCA3200
1364	DO 257 1=1,11		GJCA3210
1365	TT(1) = GJROD(1)		GJCA3220
1366	257 CONTINUE		GJCA3230
1367	C		GJCA3240
1368	C **TEST IF NEW G IS RATIO BEFORE LOOP**		GJCA3250
1369	IF (TGJ(73) - D(10)) 258,258,110		GJCA3260
1370	258 TGJ(73) = DRT+TGJ(73)		GJCA3270
1371	GO TO 110		GJCA3280
1372	C		GJCA3290
1373	C **VSWP WING AND T-TAIL. CHECK FOR MAX(J)**		GJCA3300
1374	C *USE LOWER G AS REF G FOR STIFFNESS ANALYSIS*		GJCA3310
1375	C		GJCA3320
1376	C **CALC J AND PRINT ON 15-221**		GJCA3330
1377	260 DO 261 1=1,11		GJCA3340
1378	GJR(1) = GJROD(1)/TGJ(73)		GJCA3350
1379	TT(1+13) = TT(1)/TT(12)		GJCA3360
1380	261 CONTINUE		GJCA3370
1381	C		GJCA3380
1382	IF (1P(22)) 263,263,267		GJCA3390
1383	263 WRITE (6,204)TT(13),TT(12),TGJ(74),TGJ(73)		GJCA3400
1384	204 FORMAT (42H1 ---GJ AND J COMPARISON DATA--- ,/BX,BHTEMP(1)GJCA3410		
1385	11=77.1,12H DEG. 0(1)=F10 1.4H PSI,/BX,BHTEMP(2)=77.1,12H DEG. 0(2)GJCA3420		
1386	22=10 1.4H PSI,/50H STA GJ(1) GJ(2) GJCA3430		
1387	3(1) J(2) GJCA3440		
1388	265 FORMAT (5X,12,2F10 1,2F10 1) GJCA3450		
1389	C		GJCA3460
1390	DO 266 1=1,11		GJCA3470
1391	WRITE (6,265)1,TT(1),GJROD(1),TT(1+13),GJR(1)		GJCA3480
1392	266 CONTINUE		GJCA3490
1393	C		GJCA3500
1394	C **SELECT DESIGN TEMP AND SETUP DESIGN GJ**		GJCA3510
1395	267 WDTMP = TT(13)		GJCA3520
1396	WDO = TT(12)		GJCA3530
1397	IF (WDTMP - TGJ(74)) 268,268,268		GJCA3540
1398	268 WDTMP = TGJ(74)		GJCA3550
1399	WDO = TGJ(73)		GJCA3560
1400	269 DO 271 1=1,11		GJCA3570
1401	GJROD(1) = WDO+GJR(1)		GJCA3580
1402	IF (GJR(1) - TT(1+13)) 270,271,271		GJCA3590
1403	270 GJROD(1) = WDO+TT(1+13)		GJCA3600
1404	271 CONTINUE		GJCA3610
1405	C		GJCA3619
1406	C **MOVE GJROD(1-11) TO GJR(1-11) AND TEST FOR FINAL PRINT**GJCA3620		
1407	C		GJCA3621
1408	C **SCALE GJROD DATA TO STRUCTURE DESIGN TEMP AND		GJCA3622
1409	C * STORE IN GJR TIP-ROOT*		GJCA3623
1410	C *CALC G AT DESIGN TEMP=E/(2*(1-MU))*		GJCA3624
1411	C		GJCA3625
1412	280 TW(1) = DMTLB(5)/(D(2)*(D(1) + DMTLB(2)))		GJCA3630
1413	DO 281 1=1,11		GJCA3640
1414	N = MD(12) - 1		GJCA3650
1415	GJR(N) = GJROD(1)*TW(1)/WDO		GJCA3660
1416	281 CONTINUE		GJCA3670
1417	C		GJCA3680
1418	IF (1P(22)) 282,282,290		GJCA3690
1419	282 WRITE (6,203)WDTMP,WDO,DMTLB(1),TW(1)		GJCA3700

06/10/74

INPUT LISTING

AUTOFLOW CHART SET - SHEEP HING AND EMPENNAGE MODULE -

CARD NO	****	CONTENTS	****
1420	203	FORMAT (32H0	FLUTTER DESGJCA3710
1421		110H TEMP=F7.1,6H DEG. ,10H DESIGN G=F11.1,4H PSI,26H	STRUCT.GJCA3720
1422	2	DESIGN TEMP=F7.1,6H DEG. ,10H DESIGN G=F11.1,4H PSI,26H	GJCA3730
1423	3	STA GJ(REQD) GJ(SCALED)	GJCA3740
1424	204	FORMAT (11X,12,2F16.1)	GJCA3750
1425	C		GJCA3760
1426		DO 205 I=1,11	GJCA3770
1427		M = ND(12) - 1	GJCA3780
1428		WRITE (6,204)1,GJROD(1),GJRN(1)	GJCA3790
1429	205	CONTINUE	GJCA3800
1430	C		GJCA3810
1431	C		GJCA3820
1432	C	***EXIT***	GJCA3830
1433	299	RETURN	GJCA3840
1434		END	GJCA3850
1435		*****	
1436	C		
1437	C	*****SUBROUTINE GJS1*****	
1438	C	***FLUTTER GJ CALCULATION AT STATION (1)***	
1439	C		
1440		*****	
1441	C		
1442		SUBROUTINE GJS1	GJS10010
1443	C	GJ(VF) CALC. SUBR AT STATION	GJS10020
1444	C		GJS10030
1445	C	***PREVISION--03-03-70--ADD C(1)/C(MAC. EXP.) CORRECTION.***	GJS10040
1446	C	03-13-67 -- NEW SUBR (USED BY GJCAL SUBR.)	GJS10050
1447	C		GJS10060
1448	C		GJS10070
1449		COMMON T(2060),D(2060),CD(2000),ND(100)	GJS10080
1450	C		GJS10090
1451		DIMENSION TV(100)	GJS10100
1452	C		GJS10110
1453	C		GJS10120
1454		EQUIVALENCE TV(1),T(1561)	GJS10130
1455	C		GJS10140
1456	C		GJS10150
1457	C	SETUP SECTION DATA. GIVEN --Y, C, M, D, CONSTANTS	GJS10160
1458	150	TV(50) = TV(22)*TV(23)	GJS10170
1459		TV(51) = TV(22)*TV(23)	GJS10180
1460		TV(67) = TV(50)/TV(51)	GJS10190
1461		DO 151 I=1,2	GJS10200
1462		TV(1+51) = TV(1+20)/TV(1+17)	GJS10210
1463		TV(1+53) = TV(1+51)*TV(1+51)	GJS10220
1464		TV(1+55) = ALQ (TV(1+51)*TV(1+55))	GJS10230
1465	151	CONTINUE	GJS10240
1466	C		GJS10250
1467	C	DO 152 I=1,3	GJS10260
1468		TV(58) = D(1)	GJS10270
1469		TV(59) = -D(1)	GJS10280
1470		TV(63) = 0.0	GJS10290
1471		DO 152 I=1,3	GJS10300
1472		TV(58) = TV(58)*TV(53)	GJS10310
1473		TV(59) = TV(59)*TV(53)	GJS10320
1474		TV(1+59) = TV(1+20)*(TV(58)*TV(59) + TV(1+32))	GJS10330
1475		TV(63) = TV(63) + TV(1+59)	GJS10340
1476	152	CONTINUE	GJS10350
1477	C	CV(13), CV(12)	GJS10360
1478		TV(54) = TV(54)*TV(52)	GJS10370
1479		TV(65) = TV(54)*TV(38)	GJS10380
1480		TV(64) = TV(54)*(TV(56)-D(21))+TV(39)	GJS10390
1481	C		GJS10400
1482	153	TV(112) = 0.0	GJS10410
1483		DO 154 I=1,3	GJS10420
1484		TV(1+8) = TV(1+51)*TV(1+82)	GJS10430
1485		TV(112) = TV(112)+TV(1+8)	GJS10440
1486	154	CONTINUE	GJS10450
1487	C	J(0)	GJS10460
1488		TV(113) = TV(51)*TV(67)+TV(112)	GJS10470
1489	C		GJS10480
1490	C		GJS10490

06/10/74	INPUT LISTING	TOP-LOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	****	CONTENTS	****
1491	C	***COMPUTE K=FIC(1)/C(MACH, EXP, 1) AT Y(1). ***	0.510550
1492		TF(77) = TF(12)/TF(76)	0.510560
1493		TF(71) = D(1)/D(11) + TF(77)	0.510570
1494		TF(71) = TF(77)*TF(71)	0.510580
1495	C		0.510590
1496	C	QJ(1)	0.510600
1497		160 TF(1) = TF(13)*TF(71)*TF(15)*TF(24)	0.510610
1498	C		0.510620
1499	C	EXIT	0.510630
1500		199 RETURN	0.510640
1501		END	0.510650
1502	C	SUBROUTINE QJT1	02001000
1503	C	*****	02001005
1504	C	TORSIONAL STIFFNESS REQUIRED TO PREVENT FLUTTER OF TAIL	02001010
1505	C	WRITTEN FEBRUARY 72 FROM INFORMATION DEVELOPED BY CHUCK HOUSON	02001012
1506	C		02001360
1507	C	COL(6) = CTT*ESUBE*Q/(144.0*SM**2/(CAV)**2 + YINT/GO +	02001370
1508	C	(ROM(DX)*COL(5)/A) + COL(1)/S)	02001380
1509	C		02001390
1510	C	WHERE -	02001400
1511	C	CTT FROM GRAPH CTT VS MACH NO. FOR VARIOUS DIHEDRAL ANGLES	02001410
1512	C	IN**4/LB. SEC.**2 - - - ORIGINAL FOR 0 AND 15 DEG.	02001420
1513	C	Q = LB/SQ.FT. SM=1.15, 0*SM**2-D(337)	02001430
1514	C	ESUBE = EFFECTIVE ECCENTRICITY OF VERTICAL TAIL	02001440
1515	C	= K / (1.0+0.8/AR)**2 + 10.4+0.7*LOS/SHEEP OF EA	02001442
1516	C	- 18. DEG.11*Q/0002001443	
1517	C	JFAC = D(339) + TTJFC	02001444
1518	C	TO BE USED IN LIEU OF CTT IF INPUT MACH NO = 0.0	02001445
1519	C	YINT = YAW INERTIA OF HORIZONTAL TAIL ABOUT C.G. LB. IN SQ.	02001460
1520	C	GO = IN. PER SEC PER SEC = 386.0886	02001465
1521	C	CAV = AVERAGE CHORD OF VERTICAL TAIL	02001470
1522	C		02001480
1523	C		02001490
1524	C	VALUES RUN FROM ROOT TO TIP WITH POINTS ON ELASTIC AXIS DIMENSIONAL.	02001550
1525	C	DX = INCREMENT OF DISTANCE ALONG ELASTIC AXIS	02001570
1526	C	TBD = TORQUE BOX DEPTH	02001580
1527	C	TBW = TORQUE BOX WIDTH	02001590
1528	C	SJA = S/A = TORQUE BOX PERIMETER OVER CROSS SEC. AREA	02001600
1529	C		02001610
1530	C	***YST(1-11) STORED ROOT(ACTUAL STRUCTURAL STATIONS***	02001620
1531	C	ORIGIN AT C/L OF A/V*	02001621
1532	C	TBW AND TBD ARE STORED ROOT-TIP	02001625
1533	C		02001630
1534	C	CALC QJT1 TIP-ROOT AND STORE ROOT-TIP	02001640
1535	C		02001650
1536		SUBROUTINE QJT1	02002000
1537		COMMON TCOM(6220)	02002020
1538		COMMON /PRINT/ IP(80)	02002021
1539	C		02002029
1540		DIMENSION T(2060), D(2060), CD(2000), ND(100), DC(100)	02002030
1541		A,TSEC(300), QJDAT(100), QJT(40),TGJ(200)	02002035
1542		1, YST(11), TBW(11), TBD(11), QJTT(11)	02002040
1543		2, SJA(11), DX(11), CTT1(20), CTT2(20), CTTM(20)	02002050
1544	C		02002060
1545		EQUIVALENCE (T(1),TCOM(1)), (C(1),TCOM(2061)), (C(1),TCOM(4121))	02002070
1546		1, (ND(1),TCOM(6121)), (DC(1),D(1401))	02002080
1547		2, (M1,ND(11)), (M2,ND(21)), (M3,ND(31)), (M4,ND(41)), (M5,ND(51)), (M6,ND(61))	02002090
1548		3, (QJDAT(1),T(1061)), (QJT(1),T(1621))	02002100
1549		4, (TGJ(1),T(17))	02002101
1550	C		02002120
1551		EQUIVALENCE (TSEC(1),CD(1501)), (QJTT(1),T(8601))	02002130
1552		1, (CTTH(1),QJDAT(21)), (CTT(1),QJDAT(41)), (CTT2(1),QJDAT(61))	02002131
1553		2, (GO,DC(331)), (PT0,DC(351)), (PT4,DC(361)), (PT7,DC(371))	02002132
1554		3, (COS10,DC(381)), (SIN10,DC(391)), (GOFPS,DC(431))	02002133
1555		4, (VTK,DC(441))	02002134
1556		5, (PC,QJDAT(101)), (CTTD1,QJDAT(101)), (CTTD2,QJDAT(201))	02002135
1557		A, (COSEA,TGJ(201)), (SINEA,TGJ(191))	02002140
1558		B, (SINCOA,TGJ(251)), (COSCOA,TGJ(261))	02002141
1559		C, (AR,TGJ(21)), (BS02,TGJ(81)), (YST(1),TGJ(78)), (C144,D(171))	02002142
1560		D, (TBD(1),TGJ(49)), (TBW(1),TGJ(38))	02002150
1561		E, (CBI,TGJ(121)), (TRP,TGJ(141)), (BS102,TGJ(111))	02002151

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP WING AND EMPENNAGE MODULE
1562	F, (DB1, TGJ(13)), (RSFS, TGJ(18))	02002152
1563	C	02002160
1564	EQUIVALENCE (AMACH, D(336)), (Q, D(337)), (TVFO), (YIMT, D(360))	02002170
1565	1, (DIT, D(310)), (WDHI), (TTJFC, D(339))	02002171
1566	C	02002172
1567	EQUIVALENCE (GO, GJT(26)), (CAVV, GJT(27)), (ARVT, GJT(28))	02002171
1568	1, (ESUB, GJT(29)), (TEMP, GJT(30)), (TEMP2, GJT(31))	02002172
1569	3, (DX(1), GJT(11)), (SOA(1), GJT(12)), (CTT, GJT(23)), (CTTL, GJT(24))	02002181
1570	4, (CTTU, GJT(25))	02002182
1571	5, (VTID, D(289))	02002183
1572	6, (INCASE, ND(60)), (INPAGE, ND(85))	02002184
1573	C	02002189
1574	C	02002190
1575	C	02002191
1576	C	02002204
1577	C REAC T TAIL DATA FROM PGD 37	02002205
1578	159 CALL READMS (1, GJDAT(1), 100, 37)	02002206
1579	C	02002210
1580	GO = GJFPS * D(12)	02002211
1581	ARVT = AR / D(2)	02002212
1582	CAVV = CB1 * D(1) + TRP1 / D(2)	02002213
1583	NP = PC	01000250
1584	C CALCULATE ESUB	01000251
1585	TEMP = (COSEA * COS10 + SINEA * SIN10) * PT7 + PT4	01000252
1586	TEMP2 = VTK / (D(1) * PT8 / ARVT) * *2	01000253
1587	ESUB = TEMP2 * TEMP * TTJFC	01000254
1588	C	02002190
1589	C SET UP DELTA X AND S/A ARRAYS FROM YS, TBO AND TBM	02002200
1590	C ***S/A FINE DEPTHS AND WIDTHS AT STALL, I=1, EXCEPT	02002201
1591	C S/A(1)=FIM(1) AND D(1)=1***	02002202
1592	DX(1) = BSQ2 - YST(1)	02002220
1593	SM(1) = (TBO(1) + TBM(1)) * D(2) / (TBO(1) + TBM(1))	02002225
1594	C	02002229
1595	DO 100 I=2, 11	02002230
1596	J = ND(I) - 1	02002240
1597	DX(I) = YST(J+1) - YST(J)	02002250
1598	DAVE = (TBO(J+1) + TBO(J)) / D(2)	02002260
1599	HAVE = (TBM(J+1) + TBM(J)) / D(2)	02002270
1600	SOA(I) = D(2) * (DAVE + HAVE) / (DAVE * HAVE)	02002280
1601	100 CONTINUE	02002290
1602	C	02002298
1603	C ***SETUP S/A VALUE BETWEEN ROOT TIE AND YST(1), IF ANY***	02002299
1604	TEMP2 = DC(3)	02002300
1605	IF (BS102 / COSEA - YST(1)) 110, 118, 118	02002301
1606	110 DAVE = (TBO(1) + DB1) / D(2)	02002302
1607	HAVE = (TBM(1) + DB1 * RSFS) / D(2)	02002303
1608	TEMP2 = D(2) * (DAVE + HAVE) / (DAVE * HAVE)	02002304
1609	C	02002309
1610	C	02002310
1611	C ***TEST FOR CTT CALC. CALC IF INPUT MW, H, NO NOT ZERO***	02002320
1612	C *IF MACH NO = 0.0, THEN CTT IS EQUAL TO T-TAIL J FACTOR*02002330	02002330
1613	118 CTT = D(1)	02002340
1614	IF (AMACH) 400, 400, 119	02002350
1615	C	02002360
1616	C FIND CTT VALUE FROM CURVE DATA - - -	02002370
1617	C CTTD1, CTTD2 TWO DIBEDRAL ANGLES FOR WHICH CURVES ARE GIVEN. 02002380	02002380
1618	C	02003000
1619	119 IFEXT = NI	02002010
1620	IF (AMACH - CTTN(1)) 120, 230, 180	02003020
1621	120 IC=ME	02003030
1622	GO TO 210	02003050
1623	180 DO 200 I=ME, NP	02003080
1624	IC=I	02003090
1625	IF (AMACH - CTTN(1)) 220, 240, 200	02003100
1626	200 CONTINUE	02003110
1627	210 IFEXT=ME	02003120
1628	C 2 POINT INTERPOLATION OR EXTRAPOLATION	02003130
1629	220 TEMP = (AMACH - CTTN(1)) / (CTTN(1) - CTTN(1))	02003140
1630	CTTL = CTTN(1) + (CTTN(1) - CTTN(1)) * TEMP	02003150
1631	CTTU = CTTN(1) + (CTTN(1) - CTTN(1)) * TEMP	02003160
1632	GO TO 260	02003170

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06/10/74      INPUT LISTING      AUTOFLOW CHART SET - SHEEP      WING AND EMPENNAGE MODULE -

CARD NO      ****      CONTENTS      ****

1633      C      1 POINT - AMACH EQUAL TO CURVE POINT.      02003180
1634      230      IC=M1      02003189
1635      240      CTTL = CTT1(1C)      02003190
1636      CTTU = CTT2(1C)      02003200
1637      C      CROSS PLOT      02003210
1638      260      IF (DTT-CTT01) 340, 310, 320      02003220
1639      310      CTT = CTTL      02003250
1640      360      GO TO 360      02003260
1641      320      IF (DTT-CTT02) 350, 330, 340      02003270
1642      330      CTT = CTTU      02003280
1643      360      GO TO 360      02003290
1644      340      IFEXT=M2      02003300
1645      350      CTT=CITL*(DTT-CTT01)/(CTT02-CTT01)*(CTTU-CITL)      02003340
1646      C      02003350
1647      360      IF (IFEXT-M2) 400, 370, 400      02003360
1648      370      WRITE(6,375) AMACH, CTT      02003370
1649      375      FORMAT(16H0***** EXTRAPOLATED ON T-TAIL STIFFNESS COEFF. FOR MU2003380
1650      1ACH NO., 1F8.2, 10H, CTT = , 1E9.3 )      02003390
1651      C      02003400
1652      C      ***CRITICAL FLUTTER Q INCLUDES WK**2 FACTOR***      02003409
1653      C      ***TEMP2 HAS S/A VALUE FOR STA INTERVAL BETWEEN      02003410
1654      C      * THE ROOT TIE STA AND YST(1). *0.0 IF YST(1)=TIE STA**02003411
1655      400      TEMP = CIT/CAVW*ESUBE/CAVW*YINT/GO*Q/C1N4      02003420
1656      DO 410 I=N1,N11      02003430
1657      410      TEMP2 = TEMP2 + DX(I)*SOA(I)      02003435
1658      DO 420 I=N1,N11      02003440
1659      J=N12-1      02003445
1660      QJRTT(I) = TEMP*TEMP2/ SOA(I)      02003450
1661      420      CONTINUE      02003460
1662      C      02003470
1663      C      01000200
1664      C      ***BK PRINT ON IP(22)***      01000210
1665      IF (IP(22))421,421,499      01000220
1666      421      WRITE (6,422) NCAGE      01000240
1667      422      FORMAT (10H1 CASE(4,17H)***QJTT SUBR***,60X,      01000255
1668      1 10H** QJTT - IP(22) ** )      01000256
1669      C      01000258
1670      WRITE (6,50) ARVT, CAVW,B502, YINT, CO=CO4, DTT, AMACH, Q      01000259
1671      C      01000260
1672      50      FORMAT (6X, 6T-TAIL QJH // 6X, 6AR**1F5.1, 6X, 6C-AV**1F7.2,      01000261
1673      * 10X, 6EA LENGTH**1F7.2, 6X, 6YAW INERT. H-TAIL **1E12.5 /      01000262
1674      * 42X, 6COS SKEEP C/4 **1F7.5, 4X, 6DIMEORAL OF H-TAIL **1F8.2/      01000263
1675      * 6X, 6MACH**1F6.2, 4X, 6Q**1F7.2 )      01000264
1676      C      01000265
1677      WRITE (6,60) ESUBE, CTT      01000266
1678      60      FORMAT (14D, 6X, 6ESUBE **1F9.4,10X, 6CTT **1E12.5 ///)      01000268
1679      C      01000269
1680      WRITE (6, 70)      01000270
1681      70      FORMAT (6H0 STA,6X,2HGX,14X,2HYS,14X,2HXY,14X,3H5/A)      01000300
1682      80      FORMAT (14D,3X,12,F16.1,F14.3,2X,F13.3,3X,F13.4)      01000310
1683      C      01000319
1684      C      ***PRINT DATA ROOT-TIP***      01000320
1685      DO 81 N=1,11      01000330
1686      K = ND(12) - N      01000340
1687      WRITE (6,80)N,QJRTT(N),YST(N),DX(K),SOA(K)      01000350
1688      81      CONTINUE      01000360
1689      C      01000370
1690      C      02003480
1691      499      RETURN      02003600
1692      END      02003610

1693      C*****
1694      C
1695      C
1696      C
1697      C
1698      C*****
1699      C
1700      C*****
1701      C
1702      C      ****SUBROUTINE CNSTC****
1703      C      ***STRUCTURAL SYNTHESIS CONSTANTS AND DATA SETUP***

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06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODAL
CARD NO	****	CONTENTS	****
1704	C		
1705	*****		
1706	C		
1707	SUBROUTINE CNSTC		CNSC0010
1708	C		CNSC0011
1709	C STRINGER CONSTANTS SETUP		CNSC0020
1710	C		CNSC0030
1711	C		CNSC0110
1712	COMMON T(200),D(7060),CD(2000),ND(100)		CNSC0120
1713	C		CNSC0130
1714	DIMENSION DC(100), DMTLB(17),		CNSC0140
1715	ITDC(200),TSC(420),TSS(100),TWT(400),TSEC(300),		CNSC0141
1716	ZSFSPS(2),SAPHD(2),SABE(2),		CNSC0142
1717	3GFSRT(2),		CNSC0143
1718	4OSTIE(8),DSPL(10),		CNSC0144
1719	5COS016 ,SIND(8),		CNSC0145
1720	9DLTB(30),DEL(30)		CNSC0149
1721	C		CNSC0200
1722	EQUIVALENCE (TDC(1),T(134)),(TSC(1),T(154)),(TSS(1),T(196)),		CNSC0210
1723	ITDC(1),D(140)),(TWT(1),CD(110)),(TSEC(1),CD(150)),		CNSC0211
1724	2(DLTB(1),D(600)),(DEL(1),TWT(25)),		CNSC0212
1725	3(DMTLB(1),T(20)),(SFSPS(1),D(42)),(SAPHD(1),D(4)),		CNSC0213
1726	4(SABE(1),D(416)),(GFSRT(1),D(453)),		CNSC0214
1727	5(TKXPN,TDC(64)),(TKKPK,TDC(65)),		CNSC0215
1728	6(PI,D(15)),(UPNZ,D(285)),(UPNZ,D(286)),		CNSC0216
1729	7(CCRSH,TSEC(252)),(CCRSF,TSEC(253)),		CNSC0217
1730	8(ICD,ND(49)),(ISC,ND(22)),		CNSC0218
1731	9(1WJT,ND(53)),(1,ND(2)),(J,ND(30))		CNSC0219
1732	C		CNSC0220
1733	EQUIVALENCE (STRFN,D(361)),(CKSK,D(362)),(CKSTI,D(363)),		CNSC0230
1734	1(CKSTZ,D(364)),(SKXPN,D(365)),(SKKPK,D(366)),(CNTC,D(367)),		CNSC0231
1735	2(DVFD,D(368)),(SKPN,D(370)),(MSTPN,D(377)),(BMFN,D(380)),		CNSC0232
1736	3(BMAX,D(381)),(SAPMN,D(382)),(STRCN,D(383)),(STFFN,D(384)),		CNSC0233
1737	4(SDCHK,D(385)),(SDTHX,D(386)),(SDSPK,D(387)),(SOFCL,D(388)),		CNSC0234
1738	5(ELMR,D(389)),(RNDL,D(390)),(EFLMR,D(391)),(CKNDL,D(392)),		CNSC0235
1739	6(SQNL,D(394)),(TKPNL,D(395)),(SOFU,D(398)),		CNSC0236
1740	7(CKLR,D(401)),(CKGR,D(402)),(SOBRU,DMTLB(17)),		CNSC0237
1741	8(EBASC,D(450)),(GBASC,D(451)),		CNSC0238
1742	9(OLMRT,D(452)),(DCCSH,D(408)),(DCCSF,D(409))		CNSC0239
1743	C		CNSC0240
1744	EQUIVALENCE (CNSID,D(461)),(DTC,D(462)),(DCRHO,D(463)),		CNSC0250
1745	1(DBRHO,D(464)),(DINS,D(465)),(DTCL,D(466)),(DINSL,D(467)),		CNSC0251
1746	2(DSTIE(1),D(52)),(DSPL(1),D(1490)),		CNSC0252
1747	3(COS0(1),T(46)),(SIND(1),T(140)),		CNSC0253
1748	8(CCSHM,T(199)),(CCSFH,T(200)),		CNSC0254
1749	6(SORHO,TWT(175)),		CNSC0256
1750	7(SOMU,DMTLB(2)),(SOPF,DMTLB(13)),		CNSC0257
1751	8(SOFY,DMTLB(6)),(SOTY,DMTLB(10)),(SOTU,DMTLB(12)),		CNSC0258
1752	9(ERT,DMTLB(14)),(ORT,DMTLB(15)),(SOFU,DMTLB(16))		CNSC0259
1753	C		CNSC0260
1754	C		CNSC0420
1755	C SETUP B/T TABLE		CNSC0430
1756	1000 TDC(48)= SOFP/D(5)		CNSC0440
1757	TDC(48)= (SOFY - SOFP)/D(7)		CNSC0450
1758	TDC(50)= TDC(49)/D(66)		CNSC0460
1759	IF (TDC(50) - D(65)) 1001,1002,1002		CNSC0470
1760	1001 TDC(50)= D(65)		CNSC0480
1761	1002 TDC(1)= TDC(45)		CNSC0490
1762	DO 1003 I=1,4		CNSC0500
1763	1003 TDC(I+1)= TDC(1)+TDC(48)		CNSC0510
1764	DO 1004 I=1,7		CNSC0530
1765	1004 TDC(I+5)= TDC(I+4)+TDC(49)		CNSC0540
1766	C		CNSC0560
1767	DO 1006 J=1,3		CNSC0570
1768	TDC(J+5)= DMTLB(J+2)		CNSC0580
1769	1006 CONTINUE		CNSC0590
1770	C		CNSC0598
1771	TDC(57)= SORT (CKSK*PI/D(12)*PI/(D(1)-SOMU*SOMU))		CNSC0600
1772	SORHO = DMTLB(1)		CNSC0605
1773	C		CNSC0608
1774	C SETUP ETAN AND B/T MOVE A,B,E		CNSC0610

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHL	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1775	DO 1005 I = 1,12		CHSC0620
1776	TDC(51) = TDC(1)		CHSC063
1777	CALL 952 (TDC(51))		CHSC0640
1778	TDC(1+24) = TDC(30)		CHSC0650
1779	TDC(1+12) = TDC(45)		CHSC0660
1780	1005 CONTINUE		CHSC0670
1781	C		CHSC0678
1782	C **SETUP MAX FC AND FS**		CHSC0679
1783	TDC(95) = SOFY		CHSC0680
1784	IF (SDCPK) 1302,1302,1300		CHSC0685
1785	1300 TDC(95) = SDCPK		CHSC0690
1786	IF (SDCPK - D(2)) 1301,1301,1302		CHSC0695
1787	1301 TDC(95) = SDCPK*SOFY		CHSC0700
1788	1302 TDC(46) = TDC(55)		CHSC0705
1789	CALL 952 (TDC(95))		CHSC0710
1790	TDC(56) = TDC(95)		CHSC0715
1791	TDC(61) = SOFSU		CHSC0720
1792	IF (TDC(61)) 1303,1303,1304		CHSC0725
1793	1303 TDC(61) = SOFY/SORT(D(3))		CHSC0730
1794	1304 IF (SDSPK) 1308,1308,1305		CHSC0735
1795	1305 IF (SDSPK - D(2)) 1306,1306,1307		CHSC0740
1796	1306 TDC(61) = TDC(61)*SDSPK		CHSC0745
1797	GO TO 1308		CHSC0750
1798	1307 TDC(61) = SDSPK		CHSC0755
1799	C		CHSC0758
1800	C **CRIPPLING COEFF.--USE MATL LTB DATA IF INPUT=0**		CHSC0759
1801	1308 CORSF = DCCSF		CHSC0760
1802	IF (CORSF) 1309,1309,1400		CHSC0761
1803	1309 CORSF = CCSFH		CHSC0762
1804	1400 TSEC(294) = (TDC(94)*SOFY)**0.6667		CHSC0763
1805	C		CHSC0768
1806	C SETUP S.H. CONSTANTS FOR 1, Z(1), Z(2)		CHSC0770
1807	TSEC(223)*STAFN = D(1)		CHSC0780
1808	C CLEAR TSEC(225) TO (231)		CHSC0780
1809	DO 1200 I=1,7		CHSC0800
1810	TSEC(1+224) = DC(3)		CHSC0810
1811	1200 CONTINUE		CHSC0820
1812	C		CHSC0830
1813	IF (TSEC(223)) 1007,1008,1008		CHSC0840
1814	C I STR		CHSC0850
1815	1007 TDC(95)=CKST1		CHSC0850
1816	TSEC(223)=DC(3)		CHSC0870
1817	TSEC(222)=DC(3)		CHSC0880
1818	TSEC(221)=DC(3)		CHSC0890
1819	CORSH = CORSF		CHSC0895
1820	GO TO 1009		CHSC0900
1821	C Z(1), Z(2) TYPE		CHSC0910
1822	1008 TDC(95) = CKST2		CHSC0920
1823	TSEC(222)=D(1)		CHSC0930
1824	TSEC(221)= SORT (CKST1/CKSK)		CHSC0940
1825	CORSH = DCCSH		CHSC0950
1826	IF (CORSK) 1401 1401,1009		CHSC0951
1827	1401 CORSH = CCSKH		CHSC0952
1828	C		CHSC0958
1829	1009 TDC(95) = SORT (TDC(95)/CKSK)		CHSC0960
1830	TSEC(224)=D(1)+TSEC(221)		CHSC0970
1831	C		CHSC0980
1832	C *** TEST FOR PLATES, HC, FDM ***		CHSC0980
1833	IF (D(1) - CHS(0)) 1201,1208,1209		CHSC1000
1834	C *** HP, FDM ***		CHSC1010
1835	1201 TSEC(228) = DBRHO/SDRHO/D(17)		CHSC1020
1836	IF (CHS(0) - D(2)) 1202,1202,1207		CHSC1030
1837	C *** HP ONLY ***		CHSC1040
1838	1202 TSEC(227) = DTC/D(17)+DCRHO/D(12)/SDRHO		CHSC1050
1839	TSEC(231) = TSEC(227)+DTCL/DTC		CHSC1060
1840	TSEC(225) = DTC*DINS		CHSC1070
1841	TSEC(229) = DTCL*DINSL		CHSC1080
1842	GO TO 1208		CHSC1080
1843	C		CHSC1100
1844	C *** FDM **		CHSC1110
1845	1207 TSEC(224) = D(1)		CHSC1120

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1046	TSEC(1227) = DCRND/SORND/D(17)/D(12)		CNSC1130
1047	GO TO 1209		CNSC1140
1048	C *** PL ***		CNSC1150
1049	1208 TSEC(1224) = D(1) + STRFN/HSTRFN		CNSC1160
1050	C		CNSC1170
1051	C		CNSC1180
1052	C RIB CONSTANTS		CNSC1190
1053	1209 TDC(162) = CKLR		CNSC1200
1054	TDC(163) = CKGR		CNSC1210
1055	C		CNSC1213
1056	C ***LWR COV MIN GAGE AND UPR/LWR K(SKIN)***		CNSC1214
1057	IF (SKINL) 1010,1010,1011		CNSC1215
1058	1010 SKINL = SKIN		CNSC1220
1059	1011 TRAMPN = SKIN		CNSC1230
1060	IF (SKINR) 1012,1012,1013		CNSC1240
1061	1012 TRAMPN = D(67)		CNSC1250
1062	1013 TRAMPN = SKINR		CNSC1260
1063	IF (SKINR) 1014,1014,1015		CNSC1265
1064	1014 TRAMPN = D(68)		CNSC1270
1065	1015 IF (TRAMPN) 1016,1016,1017		CNSC1275
1066	1016 TRAMPN = TRAMPN		CNSC1280
1067	C		CNSC1289
1068	C ***MIN RATIO OF -ND/+ND***		CNSC1290
1069	1017 IF (CKNDL) 1018,1018,1019		CNSC1300
1070	1018 CKNDL = D(74)		CNSC1305
1071	C		CNSC1310
1072	C ***MAX TENSION(UPR)***		CNSC1315
1073	1019 TDC(149) = SDTU		CNSC1320
1074	IF (SDFTU) 1100,1100,1020		CNSC1325
1075	1020 TDC(149) = SDFTU		CNSC1330
1076	IF (SDFTU - D(2)) 1021,1021,1100		CNSC1340
1077	1021 TDC(149) = SDFTU*SDTU		CNSC1350
1078	1100 TDC(148) = TDC(149)/TDC(146)		CNSC1360
1079	C		CNSC1370
1080	C ***FC AND FT LWR COV***		CNSC1375
1081	TDC(162) = SOFY		CNSC1380
1082	IF (SOFC) 1105,1105,1103		CNSC1385
1083	1103 TDC(162) = SOFC		CNSC1390
1084	IF (SOFC - D(2)) 1104,1104,1105		CNSC1395
1085	1104 TDC(162) = SOFC*SOFY		CNSC1400
1086	1105 TDC(160) = SDTU		CNSC1405
1087	IF (SDTRK) 1022,1022,1106		CNSC1410
1088	1106 TDC(160) = SDTRK		CNSC1415
1089	IF (SDTRK - D(2)) 1107,1107,1022		CNSC1420
1090	1107 TDC(160) = SDTRK*SDTU		CNSC1430
1091	C		CNSC1440
1092	C		CNSC1449
1093	C SETUP E(LWR COVER) 0.0=USE E(UPPER)		CNSC1450
1094	C LESS THAN 10.0 = PER CENT E(UPPER), GREATER = USE INPUT.		CNSC1460
1095	1022 TDC(163) = TDC(154)		CNSC1470
1096	IF (ELMP) 1024,1024,1023		CNSC1480
1097	1023 TDC(163) = ELMP*TDC(163)		CNSC1490
1098	IF (D(2) - ELMP) 102,1024,1024		CNSC1500
1099	102 TDC(163) = ELMP		CNSC1510
1000	C		CNSC1520
1001	1024 TDC(164) = SORND		CNSC1530
1002	IF (RHOL) 1026,1026,1025		CNSC1540
1003	1025 TDC(164) = RHOL		CNSC1550
1004	1026 TDC(165) = D(70)		CNSC1560
1005	IF (EFLMR) 1028,1028,1027		CNSC1570
1006	1027 TDC(165) = EFLMR		CNSC1580
1007	GO TO 1031		CNSC1590
1008	1028 IF (STRFN-D(1)) 1031,1029,1030		CNSC1600
1009	1029 TDC(165) = D(71)		CNSC1610
1010	GO TO 1031		CNSC1620
1011	1030 TDC(165) = D(72)		CNSC1630
1012	C		CNSC1640
1013	C SETUP STARTING BMIN,BMAX,NOSMIN		CNSC1700
1014	1031 IF (BMAX) 1032,1032,1033		CNSC1700
1015	1032 BMAX = D(10)		CNSC1800
1016	1033 IF (BMIN) 1034,1034,998		CNSC1810

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1017	1034 BMIN = D(2)		CHSC1020
1018	998 IF (SMINI) 999,1035,1035		CHSC1030
1019	999 SMIN=DC(3)		CHSC1040
1020	C		CHSC1050
1021	C ***SETUP ELEMENT COEFF***		CHSC1060
1022	C **CHECK FOR 0, SET TO 1.0. IF (-), SET 0.0*		CHSC1070
1023	1035 DO 1036 I=1,24		CHSC1080
1024	DEL(I) = DLTB(I+4)		CHSC1090
1025	IF (DLTB(I+4)) 1036,1037,1038		CHSC1000
1026	1036 DEL(I) = DC(3)		CHSC1010
1027	GO TO 1038		CHSC1020
1028	1037 DEL(I) = D(1)		CHSC1030
1029	1038 CONTINUE		CHSC1040
1030	C		CHSC1050
1031	C		CHSC2110
1032	C *** TEST FOR MC-FDH. MC USE DEL(SKHISC) FOR CORE/BOND CORRECTION		CHSC2120
1033	IF (D(2) = CHSID) 1210,1211,1212		CHSC2130
1034	C *** FDH. CORE/DEL(RIB), BOND/DEL(STR) ***		CHSC2140
1035	1210 TSEC(227) = TSEC(227)/DEL(8)		CHSC2150
1036	TSEC(228) = TSEC(228)/DEL(3)		CHSC2160
1037	GO TO 1212		CHSC2170
1038	C		CHSC2180
1039	C ** MC. ADJUST TBAR(CORE, BOND) WITH DEL(SKHISC) **		CHSC2190
1040	1211 TSEC(227) = TSEC(227)/DEL(7)		CHSC2200
1041	TSEC(228) = TSEC(228)/DEL(7)		CHSC2210
1042	TSEC(231) = TSEC(231)/DEL(7)		CHSC2220
1043	C		CHSC2230
1044	C		CHSC2240
1045	C		CHSC2250
1046	C SETUP STIFF. CONST. FOR TW, EI, QJ CALC AND K(RH) LWR,FS,RS		CHSC2260
1047	C INPUT LESS THAN 10.0 USE INPUT X UPR. GREATER = VALUE, 0=USE UPR		CHSC2270
1048	1212 TMT(173) = ERT		CHSC2280
1049	TMT(174)=ORT		CHSC2290
1050	IF (EBASC) 1048,1048,1045		CHSC2300
1051	1045 IF (EBASC -D(10))1046,1046,1047		CHSC2310
1052	1046 TMT(173)=EBASC*TMT(173)		CHSC2320
1053	GO TO 1048		CHSC2330
1054	C		CHSC2340
1055	1047 TMT(173)=EBASC		CHSC2350
1056	1048 IF (OBASC) 1052,1052,1048		CHSC2360
1057	1049 IF (OBASC-D(10)) 1050,1050,1051		CHSC2370
1058	1050 TMT(174)=OBASC*TMT(174)		CHSC2380
1059	GO TO 1052		CHSC2390
1060	C		CHSC2400
1061	1051 TMT(174)=OBASC		CHSC2410
1062	C		CHSC2420
1063	C		CHSC2430
1064	C		CHSC2440
1065	1052 TMT(105) = TDC(104)/SORH0		CHSC2450
1066	TMT(176)=TDC(103)/TDC(94)		CHSC2460
1067	TMT(176)=D(1)		CHSC2470
1068	IF (QLHRT) 1058,1055,1053		CHSC2480
1069	1053 TMT(176)= TMT(174)/QLHRT		CHSC2490
1070	IF (QLHRT -D(10)) 1054,1054,1055		CHSC2500
1071	1054 TMT(176)=D(1)/QLHRT		CHSC2510
1072	C		CHSC2520
1073	C FS,RS FACTORS		CHSC2530
1074	1055 DO 1063 I=1,2		CHSC2540
1075	TMT(I+102)=D(1)		CHSC2550
1076	IF (SHRHO(I)) 1057,1057,1056		CHSC2560
1077	1056 TMT(I+102)=SHRHO(I)/SORH0		CHSC2570
1078	1057 TMT(I+170)=D(1)		CHSC2580
1079	IF (SHBE(I)) 1060,1060,1058		CHSC2590
1080	1058 TMT(I+170)=SHBE(I)		CHSC2600
1081	IF (SHBE(I)-D(10))1060,1060,1059		CHSC2610
1082	1059 TMT(I+170)=TMT(I+170)/TDC(94)		CHSC2620
1083	1060 TMT(I+170)=D(1)		CHSC2630
1084	IF (OFBRT(I)) 1063,1063,1061		CHSC2640
1085	1061 TMT(I+170)=TMT(174)/OFBRT(I)		CHSC2650
1086	IF (OFBRT(I)-D(10)) 1062,1062,1063		CHSC2660
1087	1062 TMT(I+170)=D(1)/OFBRT(I)		CHSC2670

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1988	1063 CONTINUE		CHSC2680
1989	C		CHSC2690
1990	C	***SETUP MAX FS FOR FS/RS**	CHSC2700
1991	DO 1068 1=1,2		CHSC2710
1992	TWT(1:170) = SF/SRS(1)		CHSC2720
1993	IF (SF/SRS(1) - D(2)) 1064,1067,1067		CHSC2730
1994	1064 TWT(1:170) = SDFSU		CHSC2740
1995	IF (SDFSU) 1065,1065,1066		CHSC2750
1996	1065 TWT(1:170) = TDC(6)		CHSC2760
1997	1066 TWT(1:170) = TWT(1:170)*SF/SRS(1)		CHSC2770
1998	C		CHSC2780
1999	C	***SETUP BUCKLING CONSTANT = K(E)/(1-MU**2)	CHSC2790
2000	1067 TDC(1:65) = TWT(1:179)/(D(1) - SDMU*SDMU)		CHSC2800
2001	1068 CONTINUE		CHSC2810
2002	C		CHSC2820
2003	C	***SETUP FTHAX AND FBHAX FOR JT CALC***	CHSC2830
2004	TWT(167) = SDTU		CHSC2840
2005	IF (SDTU) 1069,1069,1070		CHSC2850
2006	1069 TWT(167) = SDTY		CHSC2860
2007	1070 IF (DSPL(13)) 1074,1074,1071		CHSC2870
2008	1071 IF (DSPL(13) - D(2)) 1072,1072,1073		CHSC2880
2009	1072 TWT(167) = TWT(167)*DSPL(13)		CHSC2890
2010	GO TO 1074		CHSC2900
2011	1073 TWT(167) = DSPL(13)		CHSC2910
2012	1074 TWT(168) = SOBRU		CHSC2920
2013	IF (SOBRU) 1075,1075,1076		CHSC2930
2014	1075 TWT(168) = D(2)*SDFY		CHSC2940
2015	1076 IF (DSPL(14)) 1080,1080,1077		CHSC2950
2016	1077 IF (DSPL(14) - D(2)) 1078,1078,1079		CHSC2960
2017	1078 TWT(168) = TWT(168)*DSPL(14)		CHSC2970
2018	GO TO 1080		CHSC2980
2019	1079 TWT(168) = DSPL(14)		CHSC2990
2020	C		CHSC3000
2021	C	***SET UP SHEAR TIE NATL CONSTANTS***	CHSC3010
2022	1080 TSEC(262) = DSTIE(1)		CHSC3020
2023	IF (DSTIE(1)) 1081,1081,1082		CHSC3030
2024	1081 TSEC(262) = SDRH0		CHSC3040
2025	1082 TSEC(263) = SDFY		CHSC3050
2026	TSEC(264) = SDTU		CHSC3060
2027	TSEC(265) = SDFSU		CHSC3070
2028	TSEC(266) = SOBRU		CHSC3080
2029	IF (TSEC(264)) 1083,1083,1084		CHSC3090
2030	1083 TSEC(264) = SDTY		CHSC3100
2031	1084 IF (TSEC(265)) 1095,1095,1086		CHSC3110
2032	1085 TSEC(265) = D(5)*SDTY		CHSC3120
2033	1086 IF (TSEC(266)) 1087,1087,1088		CHSC3130
2034	1087 TSEC(266) = D(2)*SDFY		CHSC3140
2035	C		CHSC3150
2036	1088 DO 1092 1=1,4		CHSC3160
2037	IF (DSTIE(1+1)) 1092,1092,1089		CHSC3170
2038	1089 IF (DSTIE(1+1) - D(2)) 1090,1090,1091		CHSC3180
2039	1090 TSEC(1+262) = TSEC(1+262)*DSTIE(1+1)		CHSC3190
2040	GO TO 1092		CHSC3200
2041	1091 TSEC(1+262) = DSTIE(1+1)		CHSC3210
2042	1092 CONTINUE		CHSC3220
2043	C		CHSC3230
2044	TSEC(267) = (TSEC(263) + TSEC(264))/TSEC(262)		CHSC3240
2045	TSEC(268) = (TSEC(265) + TSEC(266))/TSEC(262)		CHSC3250
2046	C		CHSC3260
2047	C		CHSC3270
2048	C	***SETUP FS/RS LENGTH CORRECTION FACTORS***	CHSC3280
2049	TSEC(270) = D(1)/(COS(2)*COS(3) + SIN(2)*SIN(3))		CHSC3290
2050	TSEC(271) = D(1)/(COS(3)*COS(4) + SIN(3)*SIN(4))		CHSC3300
2051	C		CHSC3310
2052	C		CHSC3320
2053	C	***SETUP INPUT BOX DESIGN DATA CONTROL 10***	CHSC3330
2054	C	FOR INPUT KSK, TSK, NOS/B(S) =	CHSC3340
2055	C	(18,-) = NO INPUT. SET ICS=1 FOR CNSTR SUBR	CHSC3350
2056	C	(1+) = INPUT. SET ICD=2	CHSC3360
2057	ICD = NO(1)		CHSC3370
2058	IF (CONTC) 1098,1098,1097		CHSC3380

CARD NO	CONTENTS	CNSC
2059	1097 ICD = ND(2)	CNSC3730
2060	C	CNSC3740
2061	C	CNSC3750
2062	C SETUP NOS/BSTR LOGIC CONTROL ID---ISC=1,2,3	CNSC3760
2063	C 1=SEARCH, 2=CONSTANT NOS, 3=CONSTANT SPACING(B)	CNSC3770
2064	1098 ISC = ND(1)	CNSC3780
2065	IF (ISTRN) 1111,1111,1109	CNSC3790
2066	1109 ISC=IFIX (ISTRN)	CNSC3800
2067	IF (ISC - ND(3)) 1111,1111,1110	CNSC3810
2068	1110 ISC = ND(3)	CNSC3820
2069	C	CNSC3830
2070	C SETUP J OR EQU TW ID = 1WJT, 1-J, 2=TW	CNSC3840
2071	1111 1WJT = ND(1)	CNSC3850
2072	IF (ID(2) - DW ID) 1112,1112,1113	CNSC3860
2073	1112 1WJT = ND(2)	CNSC3870
2074	C	CNSC3880
2075	C **** MOVE F(MAX) DATA TO TSEC REGION ****	CNSC3890
2076	1113 TSEC(234) = TDC(46)	CNSC3900
2077	TSEC(235) = TDC(60)	CNSC3910
2078	TSEC(236) = TDC(49)	CNSC3920
2079	TSEC(237) = TDC(48)	CNSC3930
2080	TSEC(238) = TDC(62)	CNSC3940
2081	C	CNSC3950
2082	C	CNSC4030
2083	1999 RETURN	CNSC4040
2084	END	CNSC4050
2085	C*****	
2086	C	
2087	C *****SUBROUTINE ABDM*****	
2088	C ***INITIAL STRUCTURE AND CONTENT INERTIA LOAD SETUP***	
2089	C	
2090	C*****	
2091	C	
2092	SUBROUTINE ABDM	ABDM40010
2093	C	ABDM40011
2094	C	ABDM40018
2095	C ***FUEL, CONC DN DESIGN LOAD VS DGM FACTORS***	ABDM40020
2096	C ***INITIAL EST. DN LOADS PRINT***	ABDM40021
2097	C	ABDM40030
2098	C	ABDM40040
2099	COMMON T(6220)	ABDM40050
2100	COMMON /IPRINT/ IP(80)	ABDM40051
2101	C	ABDM40060
2102	DIMENSION D(2060),CD(2000),ND(100),DC(100),	ABDM40070
2103	TSEC(300),T(124),	ABDM40071
2104	TDGM(16),	ABDM40072
2105	4SDM(11),SDM(11),SDMT(11),STM(11),STM(11),SMT(11),	ABDM40074
2106	9COLV(11),COLM(11),COLT(11),COLV(11),COLM(11),COLT(11),	ABDM40075
2107	8COLV3(11),COLM3(11),COLT3(11),FLV(11),FLV(11),FLM(11),FLM(11),	ABDM40076
2108	7FLT(11),FLT(11),DLFL(4),DLFL(4),OCOL(4),FLT(11),RFDM(4),	ABDM40077
2109	8DNT(11),TSS(100),NFL(3),SIND(8),COS(8),	ABDM40078
2110	9YSTRC(11),DNC(11),DNC(11)	ABDM40079
2111	C	ABDM40080
2112	EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),(DC(1),	ABDM40090
2113	TD(1401)),(TSEC(1),CD(1501)),(T(1),T(1317)),(TDGM(1),T(4301)),	ABDM40091
2114	2(VT(1),D(2091)),(DM(1),D(1101)),(DGM(1),D(1105)),	ABDM40092
2115	3(OCOL(1),D(1671)),(YSTPC(1),TSEC(1681)),(NFL(1),T(1671)),	ABDM40093
2116	4(8S102,T(151)),(SIND(1),T(1401)),(COS(1),T(1401)),	ABDM40094
2117	5(DDM(1),T(221)),(DDM(1),D(1105)),	ABDM40095
2118	6(FLT(1),T(631)),(RFDM(1),T(5221)),	ABDM40096
2119	7(DNC(1),T(5981)),(DNC(1),T(6091)),	ABDM40097
2120	8(DDM(1),TDGM(21)),(DDM(1),TDGM(31)),	ABDM40098
2121	9(INCAGE,ND(601)),(INPAGE,ND(651)),(ILID,ND(1941)),(IN,ND(1311)),(IN,ND(1301))	ABDM40099
2122	C	ABDM40100
2123	C	ABDM40120
2124	EQUIVALENCE (COLV(1),T(3091)),(COLM(1),T(3201)),(COLT(1),T(3311)),	ABDM40130
2125	1(COLV(1),T(3421)),(COLM(1),T(3531)),(COLT(1),T(3641)),	ABDM40131
2126	2(COLV3(1),T(3751)),(COLM3(1),T(3861)),(COLT3(1),T(3971)),	ABDM40132
2127	3(FLV(1),T(4451)),(FLM(1),T(4561)),(FLT(1),T(4671)),	ABDM40133
2128	4(FLV(1),T(4781)),(FLM(1),T(4891)),(FLT(1),T(5001)),	ABDM40134
2129	5(SDM(1),T(5441)),(SDM(1),T(5551)),(SDMT(1),T(5661)),	ABDM40135

06/10/74

INPUT LISTING

AUTOFLOW CHART SE - SHEEP WING AND EMPENNAGE MODULE -

CARD NO	****	CONTENTS	****
2130		61T04,TDGM(4),IDFL(1),D19(1),IDFLD(1),D159(1),T55(1),T196(1),ABCH0136	
2131		71T04,TDGM(4),RFL1,TDGM(11),RFL2,TDGM(12),COLK1,TDGM(13),ABCH0137	
2132		81COL2,TDGM(14),COLK3,TDGM(15),IDMT(1),T162(1),ABCH0138	
2133		91STHV(1),T181(1),1STMH(1),T182(1),1STH(1),T183(1),ABCH0139	
2134	C		ABCH0140
2135	C		ABCH0140
2136	C	**SETUP ON FACTORS AT DGM**	ABCH0140
2137		107 TRK = D(1)	ABCH0140
2138		DO4 = DC(3)	ABCH0140
2139		IF IDH(1) 111,111,108	ABCH0140
2140		100 IF (VT(1) 109,109,111	ABCH0140
2141		109 IF (L(1) - D(2)) 110,110,111	ABCH0140
2142		110 DO4 = D(1)	ABCH0140
2143	C		ABCH0140
2144	C	**SETUP FUEL CELL CONSTANTS FOR DGM AND DGM 1,2,3**	ABCH0140
2145		111 DO 139 1-1,4	ABCH0140
2146		RFGM(1) = TFLD(1)	ABCH0140
2147		RFGM(1+4) = TFLD(2)	ABCH0140
2148		IF IDFL(1) 139,139,112	ABCH0140
2149		112 RFGM(1) = D(1)	ABCH0140
2150		RFGM(1+4) = D(1)	ABCH0140
2151	C	**TEST FUEL CELL 1. 0=NO, 1,2=YES*	ABCH0140
2152		IF (DFLD(1)) 113,113,110	ABCH0140
2153		113 IF (DFLD(1+4)) 139,139,114	ABCH0140
2154		114 IF (TFLD(1)) 130,139,115	ABCH0140
2155	C	**NO CELL 1. USE CELL 2*	ABCH0140
2156		115 TT(2) = TFLD(1) - DFL(1)/D(2)	ABCH0140
2157		IF (TT(2)) 116,117,117	ABCH0140
2158		116 TT(2) = DC(3)	ABCH0140
2159		117 RFGM(1+4) = (TT(2) + TFLD(1))/TFLD(1)	ABCH0140
2160		GO TO 139	ABCH0140
2161	C	**CELL 1 OR 2. CHECK 1 FIRST*	ABCH0140
2162		118 IF (DFLD(1) - D(2)) 119,127,127	ABCH0140
2163	C	**SEQUENCE 1,2. CHECK FOR FUEL IN CELL 1*	ABCH0140
2164		119 IF (TFLD(7)) 113,113,120	ABCH0140
2165		120 TT(1) = TFLD(7) - DFL(1)/D(2)	ABCH0140
2166		IF (TT(1)) 122,121,121	ABCH0140
2167	C	**CELL 1 ONLY*	ABCH0140
2168		121 RFGM(1) = (TT(1) + TFLD(1))/TFLD(1)	ABCH0140
2169		GO TO 139	ABCH0140
2170	C	**CELL 1 AT ZERO FUEL. TEST CELL 2*	ABCH0140
2171		122 TT(2) = TT(1)	ABCH0140
2172		TT(1) = DC(3)	ABCH0140
2173		IF (DFLD(1+4)) 121,121,123	ABCH0140
2174		123 IF (TFLD(1)) 121,121,124	ABCH0140
2175	C	**SUBTRACT FUEL FROM CELL 2. TT(2)=TT(1)-1*	ABCH0140
2176		124 TT(2) = TT(2) + TFLD(1)	ABCH0140
2177		IF (TT(2)) 125,126,126	ABCH0140
2178		125 TT(2) = DC(3)	ABCH0140
2179		126 RFGM(1+4) = (TT(2) + TFLD(1))/TFLD(1)	ABCH0140
2180		GO TO 121	ABCH0140
2181	C		ABCH0140
2182	C	**SEQUENCE 2,1. CHECK CELL 2*	ABCH0140
2183		127 IF (DFLD(1+4)) 119,119,128	ABCH0140
2184		128 IF (TFLD(1)) 119,119,129	ABCH0140
2185		129 TT(2) = TFLD(1) - DFL(1)/D(2)	ABCH0140
2186		IF (TT(2)) 130,117,117	ABCH0140
2187		130 TT(1) = TT(2)	ABCH0140
2188		TT(2) = DC(3)	ABCH0140
2189		IF (TFLD(7)) 117,117,131	ABCH0140
2190		131 TT(1) = TT(1) + TFLD(7)	ABCH0140
2191		IF (TT(1)) 132,126,126	ABCH0140
2192		132 TT(1) = DC(3)	ABCH0140
2193		GO TO 126	ABCH0140
2194		130 CONTINUE	ABCH0140
2195	C		ABCH0140
2196	C	**SETUP FOR DGM(1) LOADS CALC FOR YBSET SUBR**	ABCH0140
2197		140 RFL1 = RFGM(1)	ABCH0140
2198		RFL2 = RFGM(5)	ABCH0140
2199		COLK1 = D(1) - DCOL(1)	ABCH0140
2200		COLK2 = D(1) - DCOL(5)	ABCH0140

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2201	COLK3 = D(1)		ABCH1120
2202	DOAR = D(1)		ABCH1130
2203	C		ABCH1140
2204	DO 141 1=1,11		ABCH1150
2205	TSS(1) = RFL1*FLV(1) + RFL2*FLV(1)		ABCH1160
2206	TSS(1+11) = RFL1*FLM(1) + RFL2*FLM(1)		ABCH1170
2207	TSS(1+22) = RFL1*FLT(1) + RFL2*FLT(1)		ABCH1180
2208	TSS(1+33) = COLK1*COLV(1) + COLK2*COLV(1) + COLK3*COLV(1)		ABCH1190
2209	TSS(1+44) = COLK1*COLH(1) + COLK2*COLH(1) + COLK3*COLH(1)		ABCH1200
2210	TSS(1+55) = COLK1*COLT(1) + COLK2*COLT(1) + COLK3*COLT(1)		ABCH1210
2211	SDMV(1) = TSS(1) + TSS(1+33) + STMV(1)		ABCH1220
2212	SDMH(1) = TSS(1+11) + TSS(1+44) + STMH(1)		ABCH1230
2213	SDMT(1) = TSS(1+22) + TSS(1+55) + STMT(1)		ABCH1240
2214	TSS(1+66) = DMV(1) + SDMV(1)		ABCH1250
2215	TSS(1+77) = DMH(1) + SDMH(1)		ABCH1260
2216	TSS(1+88) = DMT(1) + SDMT(1)		ABCH1270
2217	141 CONTINUE		ABCH1280
2218	C		ABCH1290
2219	C		ABCH1300
2220	C	**SETUP FUEL DATA FOR PRIO**	ABCH1310
2221	MFL(1) = DC(3)		ABCH1320
2222	MFL(2) = DC(3)		ABCH1330
2223	MFL(3) = DC(3)		ABCH1340
2224	IF (TSS(1)) 2000,2000,142		ABCH1350
2225	142 MFL(1) = BS102 + TSS(12)/TSS(11)*COSO(3) + TSS(23)/TSS(12)*SINO(3)		ABCH1360
2226	MFL(3) = D(2)*(TFLO(7) + TFLO(8))		ABCH1370
2227	MFL(2) = D(2)*(TSS(1) - TFLO(9) - TFLO(10))		ABCH1380
2228	C		ABCH1390
2229	C		ABCH13000
2230	C	**PRINT DM(10) DIST SUMMARY, ID=IP(2)***	ABCH13010
2231	2000 IF (IP(2)) 200,200,210		ABCH13020
2232	200 WRITE (6,201)INCASL, DO40		ABCH13040
2233	201 FORMAT (10H) CASEIN,10X,5H--INITIAL DEADWEIGHT DISTRIBUTIONABCH13050		
2234	1 DATA AT DM(10)--,13X,18H** ABCH - (IP(2)) **/5X,5HDO40+,F9.1)		
2235	C		ABCH13070
2236	WRITE (6,203)		ABCH13080
2237	DO 202 N=1,11		ABCH13090
2238	WRITE (6,204)IN,TSSIN+66),TSSIN+77),TSSIN+88),DMVIN),DMHIN),DMTIN),ABCH13100		
2239	1STMVIN),1STMHIN),1STMTIN)		ABCH13110
2240	202 CONTINUE		ABCH13120
2241	C		ABCH13130
2242	203 FORMAT (10H) ****TOTAL 1-0 DEADWEIGHT**** **INITIABCH13140		
2243	1AL TORQUE=BOX** *PLE,TE,TIP,MISC CONTENTS** //10H STAABCH13150		
2244	2 SHEAR B. MOM. T. MOM. SHEAR B. MOM. T. MOMABCH13160		
2245	3. SHEAR B. MOM. T. MOM.)		ABCH13170
2246	204 FORMAT (1H 3X,12,F10.1,F12.1,2F11.1,F12.1,2F11.1,F12.1,F11.1)		ABCH13180
2247	C		ABCH13190
2248	WRITE (6,206)		ABCH13200
2249	DO 205 N=1,11		ABCH13210
2250	WRITE (6,207)IN,TSSIN),TSSIN+11),TSSIN+22),TSSIN+33),TSSIN+44),TSSIN+55),ABCH13220		
2251	IN+95)		ABCH13230
2252	205 CONTINUE		ABCH13240
2253	C		ABCH13250
2254	206 FORMAT (7H) **DESIGN FUEL 1-0 D.M.T. ** **DESIGNABCH13260		
2255	1 CONC. 1-0 D.M.T.** //7H STA SHEAR B. MOM. T. MOM. ABCH13270		
2256	2 SHEAR B. MOM. T. MOM.)		ABCH13280
2257	207 FORMAT (1H 3X,12,F10.1,F12.1,2F11.1,F12.1,2F11.1,F12.1,F11.1)		ABCH13290
2258	C		ABCH13300
2259	C		ABCH13310
2260	C	**CALC ULT LOADS FOR YBSET SUBR**	ABCH13320
2261	210 DM(1) = DO40		ABCH13330
2262	CALL VLOAD1		ABCH13335
2263	C		ABCH13340
2264	C		ABCH13350
2265	C	**EXIT**	ABCH13360
2266	C		ABCH13370
2267	199 RETURN		ABCH13380
2268	END		ABCH13390
2269	C		
2270	C		
2271	C	*****SUBROUTINE YBSET*****	

CARD NO	CONTENTS	ADDRESS
2272	C ***EFFECTIVE BOX DEPTH INITIALIZATION***	
2273	C	
2274	C	
2275	C	
2276	SUBROUTINE YBSET	YBSE0010
2277	C	YBSE0011
2278	C ***INITIAL YBAR SETUP***	YBSE0020
2279	C	15000030
2280	COMMON T(6220)	15000050
2281	C	15000060
2282	DIMENSION D(2060),CD(2000),ND(100),	15000070
2283	1DC(100),TSEC(1300),TT(24),	15000071
2284	2DYBU(11),DYBL(11),	15000072
2285	3TDC(200),TBM(11),TBO(11),DAV(11),DAP(11),ULPM(11),	15000073
2286	4DAP(11),DBH(11),DOK(11),DEFF(11),	15000074
2287	5SLCFS(2),DAU(11),	15000075
2288	6YBU(11),YBL(11),YBUO(11),YBLO(11)	15000076
2289	C	15000080
2290	EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),	15000090
2291	1DC(1),D(1401),TSEC(1),CD(1501),TT(1),T(1317),	15000091
2292	21STPM,D(1377),DYBU(1),D(997),DYBL(1),D(1041),	15000092
2293	3TDC(1),T(1341),TBM(1),T(5421),TBO(1),T(5301),	15000093
2294	4DAV(1),T(5981),DAP(1),T(6391),ULPM(1),TSEC(1),	15000094
2295	71DAP(1),D(831),	15000097
2296	8YBUO(1),T(6791),YBLO(1),T(6901),	15000098
2297	9YBU(1),TSEC(1331),YBL(1),TSEC(1881)	15000099
2298	C	15000100
2299	EQUIVALENCE (CHSID,D(1461)),(SKNH,D(1370)),(STPM,D(1371)),	15000110
2300	11STPM,D(13791),SNHN,D(13821),STPM,D(13841),SKNH,D(13941),	15000111
2301	2(DTC,D(14621)),(DTCL,D(14661)),(DINS,D(14851)),(DINSL,D(14871)),	15000112
2302	3(FCHAX,TDC(1461)),(FTHAX,TDC(1601)),(FTHAX,TDC(1851)),(VTID,D(12891)),	15000113
2303	4DYBKS,D(1151),DYBOP,D(1161),DAP(1),T(1701),	15000114
2304	5(DKH(1),T(17831)),(DBH(1),T(17121)),(DEFF(1),T(1701)),	15000115
2305	6(BHN,D(13801)),(BMAX,D(13811)),(DYBOP,D(1171)),(SLCFS(1),D(14701)),	15000116
2306	9(N,ND(1301)),(K,ND(1291)),(I,ND(1281)),(J,ND(1271))	15000119
2307	C	15000120
2308	C	15000130
2309	C	15000250
2310	C ***MOVE DATA***	15000260
2311	DO 105 I=1,11	15000270
2312	N = ND(12) - 1	15000280
2313	DAP(1) = DAP(1)	15000310
2314	DBH(1) = ULPM(N)	15000320
2315	DEFF(1) = TBO(1)*DYBOP	15000330
2316	DOK(1) = ABS(DBH(1)/DEFF(1)*DAP(1)/TBM(1)*SLCFS(1)*SLCFS(2))	15000340
2317	105 CONTINUE	15000350
2318	C	15000360
2319	C ***SETUP J=ID FOR NK LOOP. LOOP ON 1, EXIT ON 2 ***	15000370
2320	J = ND(1)	15000380
2321	C	15000389
2322	C ***TEST FOR INPUT YEAR***	15000390
2323	130 IF (DYBU(1)) 140,140,131	15000400
2324	131 DO 139 N=1,11	15000410
2325	K = ND(12) - N	15000420
2326	YBU(K) = DYBU(N)	15000430
2327	YBUO(K) = YBU(K)	15000440
2328	YBL(K) = DYBL(N)	15000450
2329	C YBLO(K) = YBL(K)	15000460
2330	139 CONTINUE	15000470
2331	GO TO 199	15000480
2332	C	15000490
2333	C ***SETUP ASSUMED YEAR BY CONST. TYPE***	15000500
2334	140 TT(1) = FTHAX/FCHAX	15000510
2335	IF (VTID) 142,142,141	15000520
2336	141 TT(1) = D(1)	15000530
2337	142 TT(2) = DC(1)	15000540
2338	TT(3) = DC(1)	15000550
2339	TT(4) = DC(1)	15000560
2340	TT(11) = SKNH	15000570
2341	TT(12) = SKNH	15000580
2342	IF (CHSID) 146,146,143	15000590

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2343	C		15000600
2344	C	***TEST FOR H/SPAR, HP, FDH***	15000610
2345	143	IF (CHSID - D(2)) 144,145,150	15000620
2346	C	***H/SPAR***	15000630
2347	144	TT(2) = -STRDH*D(19)	15000640
2348		TT(5) = DYBKP	15000650
2349		GO TO 147	15000660
2350	C	***H/PAL***	15000670
2351	145	TT(3) = DTC*DINS	15000680
2352		TT(4) = DTCL*DINSL	15000690
2353		TT(15) = DTC	15000700
2354		TT(16) = DTCL	15000710
2355		GO TO 150	15000720
2356	C	***STR***	15000730
2357	146	TT(5) = DYBKS	15000740
2358		TT(2) = HSTPHN*D(19)	15000750
2359	147	TT(3) = STRDH*(HSTPHN + STPHK + STPHN)	15000760
2360		TT(4) = TT(3)	15000770
2361	C		15000780
2362	C	***DO YBU,YBL JN LOOP. STORE TIP TO ROOT***	15000790
2363	150	DO 195 N=1,11	15000800
2364		K = ND(12) - N	15000810
2365		TT(7) = DKK(1(N))/FCHX	15000820
2366		TT(8) = DKK(1(N))/FTHX	15000830
2367		IF (TT(3)) 151,151,160	15000840
2368	C	***FDH***	15000850
2369	151	TT(8) = TT(7)/D(2)	15000860
2370		IF (TT(7) - SGNH) 152,153,153	15000870
2371	152	TT(8) = SGNH/D(2)	15000880
2372	153	TT(10) = TT(8)*TT(1)	15000890
2373		IF (TT(10) + TT(10) - SGNH) 154,155,155	15000900
2374	154	TT(10) = SGNH/D(2)	15000910
2375	155	YBU(1(K)) = TT(8)	15000920
2376		YBL(1(K)) = TT(8)	15000930
2377		YBL(1(K)) = TT(10)	15000940
2378		YBL(1(K)) = TT(10)	15000950
2379		GO TO 195	15000960
2380	C		15000970
2381	C	***STR, H/S, HP, CALC B.***	15000980
2382	160	TT(8) = TBH(N)/(SNHIN + D(1))	15000990
2383		IF (TT(2)) 170,161,170	15001000
2384	C		15001010
2385	C	***H/PAL***	15001020
2386	161	DO 163 I=1,2	15001030
2387		TT(1+12) = TT(1+2)/TT(6)	15001040
2388		TT(1+16) = TT(1+12) + TT(1+10)	15001050
2389		TT(1+8) = TT(1+10) + TT(1+14)*D(19)	15001060
2390	C		15001070
2391		IF (TT(1+16) - TT(1+6)) 162,163,163	15001080
2392	162	TT(1+8) = (TT(1+6) + TT(1+14))/D(2)	15001090
2393	163	CONTINUE	15001100
2394	C	***VERT TYPE, UPR-LWR***	15001110
2395	164	IF (VTD) 195,195,165	15001120
2396	165	TT(10) = TT(8)	15001130
2397		GO TO 195	15001140
2398	C		15001150
2399	C	***STR OR H/SPAR***	15001160
2400	170	IF (CHSID) 171,171,180	15001170
2401	C	TEST B(STR)	15001180
2402	171	IF (TT(6) - BMIN) 172,180,173	15001190
2403	172	TT(6) = BMIN	15001200
2404		GO TO 180	15001210
2405	173	IF (BMIN + BMAX + TT(6) + TT(6)) 174,180,180	15001220
2406	174	TT(6) = (BMIN + BMAX)/D(2)	15001230
2407	C		15001240
2408	C		15001250
2409	180	DO 189 I=1,2	15001260
2410		TT(1+12) = TT(1+2)/TT(6)	15001270
2411		TT(1+16) = TT(1+12) + TT(1+10)	15001280
2412		TT(18) = TT(1+10)/TT(5)/TK00K	15001290
2413		TT(20) = TT(1+10)	15001300

CARD NO	CONTENTS	
2414	TT(21) = TT(1)*12)	15001310
2415	IF (TT(1+6) - TT(1+10)) 101,102,105	15001320
2416	101 IF (TT(19) - TT(1+16)) 102,102,103	15001330
2417	102 TT(22) = TT(20) + TT(21)	15001340
2418	C	15001350
2419	C *CALL YBAR*	15001360
2420	TT(1+8) = (TT(20)*TT(20)/D(2) + TT(21)*(TT(20) + TT(2) + STRN))/	15001370
2421	TT(22)	15001380
2422	GO TO 109	15001390
2423	103 TT(21) = TT(19) - TT(20)	15001400
2424	1030 IF (TT(21) - TT(1+12)) 104,102,102	15001410
2425	104 TT(21) = TT(1+12)	15001420
2426	GO TO 102	15001430
2427	105 IF (TT(1+6) - TT(19)) 103,103,105	15001440
2428	105 TT(20) = TDOX*TT(1+6)	15001450
2429	IF (TT(20) - TT(1+10)) 107,100,100	15001460
2430	107 TT(20) = TT(1+10)	15001470
2431	100 TT(21) = TT(1+6) - TT(20)	15001480
2432	GO TO 1030	15001490
2433	109 CONTINUE	15001500
2434	C	15001510
2435	C ** TEST FOR VERT TYPE**	15001520
2436	100 IF (VTID) 101,101,105	15001530
2437	101 IF (CHSID) 102,102,105	15001540
2438	102 TT(10) = SORT(TT(1)) + TT(9)	15001550
2439	IF (TT(9) - TT(10)) 105,105,105	15001560
2440	105 CONTINUE	15001570
2441	C	15001580
2442	C ***ADJUST NX AND DAVE FOR CALC. YBAR***	15001590
2443	106 DO 1009 N=1,11	15001600
2444	K = ND(12) - N	15001610
2445	DEFF(N) = TDO(N) - YBU(K) - YBL(K)	15001620
2446	IF (DEFF(N) - D(1)) 1060,1060,1061	15001630
2447	1060 DEFF(N) = D(1)	15001640
2448	1061 DKK(11) = ABS(DBM(11))/DEFF(N)*DQJ(N)/(TBM(N)*SLCF(1)+SLCF(2))	15001650
2449	1009 CONTINUE	15001660
2450	C	15001670
2451	C ***TEST ID=J FOR SECOND LOOP ON NX AND YBAR. 1-LOOP***	15001680
2452	107 IF (J - ND(1)) 108,108,109	15001690
2453	108 J = ND(2)	15001700
2454	GO TO 150	15001710
2455	C	15001720
2456	C	15001730
2457	C *EXIT**	15001740
2458	109 RETURN	YBSEY990
2459	END	YBSEY999
2460	C*****	
2461	C	
2462	C *****SUBROUTINE 952*****	
2463	C ***STRESS-STRAIN CURVE EVALUATION AT GIVEN STRESS (FC)***	
2464	C	
2465	C*****	
2466	C	
2467	SUBROUTINE 952(SFC)	95 0010
2468	C STRESS-STRAIN EVAL. SUBR	95 0020
2469	C	95 0030
2470	C REVISION -- 01-10-86 -- NEW FORMAT	95 0040
2471	C	95 0050
2472	C STRAIN AND REDUCED MODULUS FOR GIVEN FC	95 0060
2473	C	95 0070
2474	COMMON T(200),D(200),CD(200),ND(100)	95 0110
2475	C	95 0120
2476	DIMENSION	95 0130
2477	ITDC(200),TSC(1+20),TSS(100),	95 0140
2478	PSA(1+),SD(7)	95 0150
2479	C	95 0160
2480	EQUIVALENCE (TDC(1),T(13+1)),(TSC(1),T(19+1)),(TSS(1),T(100+1)),	95 0170
2481	(PSA(1),T(1377)),(SD(1),T(1302)),(SFC,T(1391)),(SC2,T(1322)),	95 0171
2482	Z(SCI,T(1321))	95 0172
2483	C	95 0200
2484	90 SFC = SFC1	95 0090

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	MING AND EMPENNAGE MODULE
CARD NO	****	CONTENTS	****
2485	C		SS 0100
2486		SC1 = EHP (SD(2)*SFC)	SS 0210
2487		SC2 = D(11)/SD(3)	SS 0220
2488	C		SS 0230
2489	C	COMPUTE STRAIN, E', ES	SS 0240
2490		SA(1) = SFC*SC2 + SD(1)*SC1	SS 0250
2491		SA(3) = SFC/SA(1)	SS 0260
2492	B2	SA(2) = D(11)/SC2 + SD(1)*SD(2)*SC1	SS 0270
2493		SC1 = SA(2)/SA(3)	SS 0280
2494	C		SS 0290
2495	C	ERSK AND KROT	SS 0300
2496	B3	SA(8) = SA(3)*(D(41)+(D(42)*(SORT (D(43) + D(44)*SC1)))	SS 0310
2497		SA(9) = SD(8)*SORT (SA(8)/SFC)	SS 0320
2498	C	ERL1 AND ERL2	SS 0330
2499		SA(4) = SORT (SA(2)*SD(3))	SS 0340
2500		SA(5) = SA(3)	SS 0350
2501	C	ERG1 AND ERG2	SS 0360
2502		SA(6) = SA(2)	SS 0370
2503	B4	SA(7) = SA(3)*(D(45) + D(46)*SC1)	SS 0380
2504	C		SS 0390
2505	B9	RETURN	SS 0400
2506		END	SS 0410
2507	C	*****	
2508	C		
2509	C	*****SUBROUTINE VLOAD*****	
2510	C	***NET ULTIMATE DESIGN LOADS EVALUATION***	
2511	C		
2512	C	*****	
2513	C		
2514		SUBROUTINE VLOAD1	VLOAD0010
2515	C		VLOAD0001
2516	C	*****SAME AS SUBR VLOAD IN OVERLAY(01,0)*****	VLOAD0011
2517	C		VLOAD0019
2518	C		VLOAD0020
2519	C	***NET ULT DESIGN LOADS CALC SUBR***	VLOAD0030
2520	C		VLOAD0040
2521	C	***LID = TYPE OF LOAD SET ID***	VLOAD0050
2522	C	*1 = GROSS, CALC*	VLOAD0060
2523	C	*2 = GROSS, INPUT*	VLOAD0070
2524	C	*3 = INPUT, NET*	VLOAD0080
2525	C		VLOAD0090
2526	C		VLOAD0100
2527	C		VLOAD0150
2528		COMMON /I(2080),D(2080),CD(2000),ND(100)	VLOAD0160
2529		COMMON /I(PRINT)/I(80)	VLOAD0181
2530		COMMON /MISC/ MISC(100)	
2531	C		VLOAD0170
2532		DIMENSION DC(100),TT(24),TSEC(300),	VLOAD0180
2533		IALPVI(1),ALPH(1),ALPT(1),ALNV(1),ALNH(1),ALNT(1),	VLOAD0190
2534		2TDOM(10),ULTPT(1),ULTNT(1),	VLOAD0192
2535		SDMV(1),DMV(1),DMT(1),SDMH(1),SDMT(1),	VLOAD0193
2536		NUMS(1),UNRS(1),DNFS(1),DNRS(1),	VLOAD0194
2537		SDMV(1),DMV(1),DMT(1),	VLOAD0195
2538		SGJRD(1),DNFSRS(1),	VLOAD0196
2539		GRIDS(132),	VLOAD0198
2540		9ULTPV(1),ULTPH(1),ULTNV(1),ULTNH(1)	VLOAD0199
2541	C		VLOAD0210
2542		EQUIVALENCE (DC(1),D(140)),(UNP2,D(295)),(UNP2,D(288)),	VLOAD0220
2543		1(ULTP,D(122)),(TT(1),T(1317)),(TSEC(1),CD(1501)),	VLOAD0221
2544		2(IALPVI(1),T(594)),(ALPH(1),T(565)),(ALPT(1),T(877)),(ALNV(1),T(576)),	VLOAD0222
2545		3(,ALNH(1),T(567)),(ALNT(1),T(888)),(TDOM(1),T(430)),	VLOAD0223
2546		4(DMV(1),T(588)),(DMV(1),T(609)),(DMT(1),T(620)),	VLOAD0224
2547		5(ULTPV(1),TSEC(1)),(ULTPV(1),TSEC(12)),(ULTNV(1),TSEC(111)),(ULTNV(1),	VLOAD0225
2548		6(T1,TSEC(122)),(SGJRD(1),T(888)),(DGM(1),T(22)),	VLOAD0226
2549		7(TDOM(1),TDOM(2)),(TDOM(1),TDOM(3)),(TDOM(1),TDOM(4)),	VLOAD0227
2550		8(NEC(1),ND(60)),(NDOM(1),ND(56)),(TOM(1),ND(61)),(TOP(1),ND(62)),	VLOAD0228
2551		9(INPAGE,ND(85)),(LID,ND(94)),(IN,ND(30)),(IF,ND(31))	VLOAD0229
2552	C		VLOAD0230
2553		EQUIVALENCE (UNFS(1),TSEC(123)),(UNRS(1),TSEC(134)),	VLOAD0240
2554		1(ULTPT(1),TSEC(144)),(ULTNT(1),TSEC(155)),	VLOAD0241
2555		2(SDMV(1),T(844)),(SDMH(1),T(855)),(SDMT(1),T(866)),	VLOAD0242

CARD NO	CONTENTS	
2556	3(RLOS(1),CD(1901)),	V.000243
2557	0(TDM(1),CD(1901)),(TDM(1),CD(1979)),(TDM(1),CD(1990)),	V.000248
2558	0(DWFRS(1),CD(1924)),(DWS(1),D(1942)),(DWS(1),D(1953))	V.000249
2559	DIMENSION STMV(1),STM(1),STMT(1)	
2560	EQUIVALENCE (STMV(1),T(101)),(STM(1),T(102)),(STMT(1),T(103))	
2561	C	V.000250
2562	C ** REVERSE THE LOAD FACTORS IF THE H. T. LOADS HAVE BEEN REVERSED **	
2563	C	
2564	IF(D(209))15,16,14	
2565	15 IF(D(15C(42))16,16,0	
2566	0 SAVE = UNPZ	
2567	UNPZ = UPNZ	
2568	UPNZ = SAVE	
2569	GO TO 16	
2570	14 UNPZ = UPNZ	
2571	C	
2572	C ***CHECK BK PRINT***	V.000251
2573	C *SET TT(3) TO 0 FOR NO PRINT, 1 FOR PRINT*	V.000254
2574	16 TT(3) = DC(3)	V.000260
2575	IF (IP(24))1003,1003,1008	V.000266
2576	1003 TT(3) = 0(1)	V.000275
2577	WRITE (6,1004)INCASE, 104,NODM,10P1,D0M1	V.000280
2578	WRITE (6,1005)	V.000285
2579	C	V.000289
2580	1004 FORMAT (10H1 CASE14,10X,NBH--DESIGN LOADS/1000 AND REGD GJ/1V.000290	
2581	1,000,000--*,17X,21H** V.0001 - IP(24) **1H0,15X,BH 10H*,11,	
2582	2 7H NODM=11,7H 10P1=11,8H D0M1,F8.1)	
2583	C	V.000299
2584	1005 FORMAT (10BH0 STA +V(ULT) +H(ULT) +T(ULT) -V(ULT) -H(ULT).000300	
2585	17) -T(ULT) VDM(10) NDM(10) TDM(10) GJ(1000))	V.000301
2586	104 FORMAT (1H 3X,12,F10.3,F11.2,F10.2,F9.5,F10.2,F10.2,F9.3,F10.2,F10.000470	
2587	1.2,F12.3)	V.000471
2588	C	V.000309
2589	1008 DO 109 N=1,11	V.000310
2590	K = ND(12) - N	V.000315
2591	TT(1) = DC(3)	V.000320
2592	TT(7) = DC(3)	V.000325
2593	TT(2) = DC(3)	V.000330
2594	TT1 = 0.0	
2595	TT2 = 0.0	
2596	TT7 = 0.0	
2597	IF (LID - ND(2)) 101,101,102	V.000334
2598	C	V.000350
2599	C *PRINT ON TT(3)=1.0*	V.000351
2600	C **SETUP INERTIA DATA**	V.000360
2601	101 TT(1) = SDMV(N) - STMV(N)	
2602	TT1 = (DMV(N) + STMV(N)) * D0M1 + T0M1	
2603	TT(2) = SDMV(N) - STMV(N)	
2604	TT2 = (DMV(N) + STMV(N)) * D0M1 + T0M1	
2605	TT(7) = SDMT(N) - STMT(N)	
2606	TT7 = (DMT(N) + STMT(N)) * D0M1 + T0M1	
2607	ALPHZ = ABS(UPNZ)	
2608	ALPHZ = ABS(UPNZ)	
2609	C	V.000369
2610	102 ULTPV(K) = ABS(ULTF * ALPV(N)) * D0M1 -	
2611	*ALPHZ * (TT(1) * RLOS(N+66) + TT1 * RLOS(N+33))	
2612	C	V.000399
2613	ULTHV(K) = ABS(ULTF * ALMV(N)) * D0M1 +	
2614	*ALPHZ * (TT(1) * RLOS(N+99) + TT1 * RLOS(N+33))	
2615	C	V.000408
2616	ULTPH(K) = ABS(ULTF * ALPH(N)) * D0M1 -	
2617	*ALPHZ * (TT(2) * RLOS(N+77) + TT2 * RLOS(N+11))	
2618	C	V.000414
2619	ULTHH(K) = ABS(ULTF * ALMH(N)) * D0M1 +	
2620	*ALPHZ * (TT(2) * RLOS(N+110) + TT2 * RLOS(N+44))	
2621	C	V.000418
2622	ULPT(K) = ABS(ULTF * ALPT(N)) * D0M1 -	
2623	*ALPHZ * (TT(7) * RLOS(N+88) + TT7 * RLOS(N+22))	
2624	C	V.000424
2625	ULTH(K) = ABS(ULTF * ALMT(N)) * D0M1 +	
2626	*ALPHZ * (TT(7) * RLOS(N+121) + TT7 * RLOS(N+99))	

CARD NO	INPLIST LISTING	AUTOFLOW CHART SET - SWEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
2627	C		VLOD0429
2628	C	FS/RS LOADS	VLOD0430
2629		UWFS(K) = ULTPV(K)*DWFS(IN)*DWFSRS(IN)	VLOD0440
2630		UWRS(K) = ULTPV(K)*DWRS(IN)*(D(1) - DWFSRS(IN))	VLOD0450
2631		IF (TT(3)) 109,109,103	VLOD0451
2632	103	TT(1) = ULTPV(K)/1000.0	VLOD0452
2633		TT(9) = ULTPH(K)/1000.0	VLOD0453
2634		TT(10) = ULTPH(K)/1000.0	VLOD0454
2635		TT(11) = ULTPH(K)/1000.0	VLOD0455
2636		TT(12) = ULTPH(K)/1000.0	VLOD0456
2637		TT(13) = ULTPH(K)/1000.0	VLOD0457
2638		TT(14) = (TT(1) + TT(1))/ 1000.0	
2639		TT(15) = (TT(2) + TT(2))/ 1000.0	
2640		TT(16) = (TT(7) + TT(7))/ 1000.0	
2641		TT(17) = (GJROD(IN))/1000000.0	VLOD0461
2642		WRITE (6,104)N,(TT(1-7),1-1,10)	VLOD0465
2643	C		VLOD0472
2644		TDM(IN) = TT(1) + TT(1)	
2645		TDM(IN) = TT(2) + TT(2)	
2646		TDM(IN) = TT(7) + TT(7)	
2647	C		VLOD0479
2648	109	CONTINUE	VLOD0480
2649	C		VLOD0490
2650		IF(D(200))110,199,199	
2651		10 IF(DHISC(42))199,199,11	
2652		11 SAVE = UNHZ	
2653		UNHZ = UNHZ	
2654		UNHZ = SAVE	
2655	C		VLOD1990
2656	C	***EXIT***	VLOD1990
2657	199	RETURN	VLOD1998
2658		END	VLOD1999

OVERLAY (17,0)

DATA GENERATION AND OUTPUT DATA PROCESSING

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
FORTRAN MODULE	(LIST, AUTOSEQ)	CONTENTS	****
1	C	*****	
2	C		
3	C	*****PROGRAM OLAY17*****	
4	C	***PROGRAM FOR SEVENTH OVERLAY OF WING/EMPENNAGE MODULE***	
5	C	DATA GENERATION AND OUTPUT DATA PROCESSING	
6	C		
7	C	*****	
8	C		
9	C	PROGRAM OLAY17	
10	C		
11	C	COMMON T(7120)	
12	C		
13	C	COMMON /MISC/ NMISC(100)	
14	C		
15	C	REWIND 24	
16	C		
17	C	BUFFER IN(24,1)(T(1),T(7120))	
18	C		
19	C	IF(UNIT(24))10,10,10	
20	C		
21	C	10 CALL MODATA	
22	C		
23	C	REWIND 24	
24	C		
25	C	BUFFER OUT(24,1)(T(1),T(7120))	
26	C		
27	C	IF(UNIT(24))20,20,20	
28	C		
29	C	20 CONTINUE	
30	C		
31	C	END	
32	C	*****	
33	C		
34	C	*****SUBROUTINE MODATA*****	
35	C	***MODULE OUTPUT DATA CONTROL - FINAL RESULTS***	
36	C		
37	C	*****	
38	C		
39	C	SUBROUTINE MODATA	MODT0010
40	C		MODT0020
41	C	***OUTPUT DATA CONTROL ROUTINE. XB AND SHEEP 1,2,4***	MODT0030
42	C		MODT0040
43	C		MODT0050
44	C	COMMON T	MODT0060
45	C	COMMON /IPRINT/ IP(80)	MODT0061
46	C		MODT0070
47	C	DIMENSION T(7120),D(2060),CD(2000),ND(100),DC(100),TH(900),	MODT0080
48	C	1YC(150),YTC(80),TQ(300),TMD(400),TGA(135),CC(1300),TCS(250),	MODT0081
49	C	BCCH(50),CLE(150),CTE(150),CFL(150),CFL2(150),CHI(150),	MODT0082
50	C	3CCCL(150),TST(50),TOR(100),CTB(150),CTBH(150),TMT(400),	MODT0083
51	C	4TAND(8),CCLO(8),SIND(8),COSD(8),	MODT0084
52	C	5HCO(126),COOH(3),MTIP(4),DKDIN(15),	MODT0085
53	C	6THMP(11),THMP(11),VTHP(11),	MODT0086
54	C	7APLH(10),TPALH(10),TBCHT(11),	MODT0087
55	C	8ATLT(8),C10Y(150),	MODT0088
56	C	9TT(24),TS(520)	MODT0089
57	C	DIMENSION DUMMY(50)	
58	C		MODT0090
59	C	EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(8121)),	MODT0100
60	C	1(DC(1),D(1401)),(TT(1),T(4111)),(YC(1),T(8011)),(YTC(1),T(3511)),	MODT0101
61	C	2(TH(1),T(6221)),(TMT(1),CD(1101)),(CTBH(1),CD(3511)),	MODT0102
62	C	3(TQ(1),T(1001)),(TMD(1),T(1301)),(TGA(1),T(1051)),	MODT0103
63	C	4(TST(1),T(1701)),(TOR(1),T(1751)),(CTB(1),CD(3511)),	MODT0104
64	C	5(CLE(1),CD(851)),(CTE(1),CD(801)),(CFL(1),CD(951)),	MODT0105
65	C	6(CFL2(1),CD(1101)),(CHI(1),CD(1251)),(CCCL(1),CD(501)),	MODT0106
66	C	7(CCH(1),CD(1051)),(TCS(1),CD(1401)),(CCCH(1),CD(1)),	MODT0107
67	C	8(DINID,D(271)),(DKDIN(1),D(1970)),	MODT0108
68	C	9(104,ND(81)),(118,ND(97)),(11,ND(29)),(114,ND(93))	MODT0109
69	C	A, (INPADE,ND(85)), (INCAE,ND(80))	MODT0109
70	C		MODT0110

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WIND AND EMPENNAGE MODULE
CARD NO	CONTENTS		
71	EQUIVALENCE (TAND(1),T(122)),(CCLO(1),T(131)),(SING(1),T(140)),		MOOT0120
72	1(COS(1),T(146)),(BS1(2),T(151)),(MVID(1),T(157)),(TOGW(1),D(180)),		MOOT0121
73	2(DELWD,T(187)),(DLTDX,T(188)),(DAGLE,T(193)),(DAGTE,T(194)),		MOOT0122
74	3(XPVT,T(199)),(XPVT,T(140)),(YSPVT,T(141)),(XSPVT,T(151)),		MOOT0123
75	4(XCSEC,T(162)),(CSHD,D(1480)),		MOOT0124
76	5(WTIP(1),T(164)),(TS(1),TW(1)),		MOOT0125
77	6(TBWP(1),CTBW(1)),(TPWP(1),CTBW(70)),(WBP(1),CTBW(89)),		MOOT0126
78	7(WPNS(1),CTBW(48)),(TPNLH(1),CTBW(58)),(TBCMT(1),CTBW(12)),		MOOT0127
79	8(CLOY(1),CD(140)),(CCLOH,T(91)),(VTID,D(289)),(TTIDH,D(204)),		MOOT0128
80	9(MCO(1),TW(70)),(MTL(1),TW(87))		MOOT0129
81	C		MOOT0130
82	C		MOOT0140
83	C		MOOT0200
84	C ***SAVE T(201-300)***		MOOT0205
85	100 DO 1001 I=1,100		MOOT0210
86	TH(I+600) = T(I+200)		MOOT0220
87	1001 CONTINUE		MOOT0230
88	C		MOOT0240
89	C **SAVE BOX INDEX FACTORS AND TIP DATA**		MOOT0250
90	DO 1002 I=1,30		MOOT0260
91	TH(I+826) = TH(I+250)		MOOT0270
92	1002 CONTINUE		MOOT0280
93	C		MOOT0290
94	TH(897) = WTIP(1)*D(2)/MVID		MOOT0300
95	DO 1003 I=1,3		MOOT0305
96	TH(I+897) = WTIP(I+1)		MOOT0310
97	1003 CONTINUE		MOOT0320
98	C		MOOT0330
99	C ***SETUP FOR FINAL C.G. CALC***		MOOT0340
100	C		MOOT0350
101	C *SETUP CALC. T-BOX DATA FOR INTEGRATION*		MOOT0360
102	C *RCDS (156,157,158)=FINAL WT DIST DATA*		MOOT0370
103	C * 156=GM(1), 157=GM(2), 158=GM(3)*		MOOT0380
104	C *11 BOX WT/IN(1), CONC Z, E1, GJ, E(1), G(1), RHO*		MOOT0390
105	C *10 BOX PNL WT(1), 10 TOTAL BOX PNL(DIST), 10 DEL CDL*		MOOT0400
106	C *11 MISC WT/IN, 11 WT/IN, 11 WT SUMMARY*		MOOT0401
107	C *11 MATL E, 11 MATL Q*		MOOT0402
108	C		MOOT0410
109	C *SETUP CORE*		MOOT0420
110	C *ARRAYS YC, YTC, TGA, TG, THD, CCM, CCOL1*		MOOT0421
111	C *RCD 144=YC(140-139) YTC(1-50). USE TG FOR TEMP LOC*		MOOT0422
112	101 CALL READMS(1,TG(1),200,144)		MOOT0430
113	DO 1010 I=1,100		MOOT0431
114	YC(I+40) = TG(I)		MOOT0432
115	1010 CONTINUE		MOOT0433
116	DO 1011 I=1,50		MOOT0434
117	YTC(I) = TG(I+150)		MOOT0435
118	1011 CONTINUE		MOOT0436
119	C		MOOT0439
120	CALL READMS(1,TGA(1),135,145)		MOOT0440
121	CALL READMS(1,TG(1),300,146)		MOOT0450
122	CALL READMS(1,THD(1),400,147)		MOOT0460
123	CALL READMS(1,CCM(1),50,148)		MOOT0470
124	CALL READMS(1,CCOL1(1),150,149)		MOOT0475
125	C		MOOT0479
126	C **CCI ARRAY FOR TBFW**		MOOT0480
127	DO 102 I=1,300		MOOT0490
128	CCI(I) = DC(3)		MOOT0500
129	102 CONTINUE		MOOT0510
130	C		MOOT0520
131	DO 1020 I=1,11		MOOT0530
132	CCI(I+126) = TG(I+276)		MOOT0540
133	1020 CONTINUE		MOOT0550
134	C		MOOT0560
135	DO 1021 I=1,77		MOOT0570
136	CCI(I) = TGA(I+42)		MOOT0580
137	1021 CONTINUE		MOOT0590
138	C		MOOT0600
139	C **DELTA WT DUE TO CDL ITEMS FOR BOX ANALYSIS**		MOOT0610
140	DO 1022 I=1,48		MOOT0620
141	CCI(I+105) = CCOL1(I+81)		MOOT0630

06/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
142	1022 CONTINUE		MODT0640
143	C		MODT0650
144	DO 1023 I=1,5		MODT0660
145	CC(I+97) = TGA(I+119)		MODT0670
146	1023 CONTINUE		MODT0680
147	C		MODT0690
148	C	**CLEAR MCG ARRAY**	MODT0700
149	DO 1024 I=1,126		MODT0710
150	MCG(I) = DC(3)		MODT0720
151	1024 CONTINUE		MODT0730
152	C		MODT0730
153	C	*AD* DELTA T-BOX TO MTS DUE TO COL ITEMS	MODT0730
154	DO 1025 I=1,8		MODT0740
155	CC(I+105) = DLTBX*CC(I+105)		MODT0741
156	1025 CONTINUE		MODT0745
157	C		MODT0740
158	C	*MOVE LE/TE MT SUMMARY DATA FROM TNG ARRAY TO TV ARRAY*	MODT0749
159	DO 1026 I=1,8		MODT0750
160	MT(I+1) = TNG(I+85)		MODT0751
161	C		MODT0750
162	C		MODT0750
163	1026 CONTINUE		MODT0752
164	C	***PROCESS BY GH. ORDER= GH(3), GH(1), GH(2)***	MODT0760
165	IGH = NO(3)		MODT0770
166	110 IF (TOOM(IGH)) 125,125,111		MODT0780
167	111 IFB = IGH + 195		MODT0790
168	CALL READPS (1,CTBH(1),150,IFB)		MODT0800
169	C		MODT0810
170	C	**SETUP GH(1). MOVE DATA TO CC**	MODT0820
171	DO 112 I=1,47		MODT0830
172	CC(I+130) = CTBH(I)		MODT0840
173	112 CONTINUE		MODT0850
174	CC(I+130) = DKDIN(I)		MODT0860
175	C		MODT0860
176	C	***CLEAR TCS REGION***	MODT0860
177	DO 1120 I=1,250		MODT0870
178	TCS(I) = CC(3)		MODT0871
179	1120 CONTINUE		MODT0872
180	C		MODT0870
181	C	*DELTA CONC MTS AT STATION*	MODT0870
182	DO 113 I=1,11		MODT0880
183	CC(I+102) = TBCHT(I)		MODT0890
184	113 CONTINUE		MODT0900
185	CC(I+23) = CC(I+23) - CC(I+93)*DLTBX		MODT0901
186	C		MODT0910
187	C	***INTEGRATION BASE HEIGHT FOR BOX***	MODT0920
188	C	*ASSUME EST. WING HISC TO BE INCLUDED IN BOX MT FOR	MODT0930
189	C	STRIP INERTIA AND C.G. CALC*	MODT0940
190	TCS(101) = (CTBH(104) + CTBH(107))*HAWID/D(2)		MODT0950
191	C		MODT0960
192	C	*CORRECT BOX HEIGHT/IN TO FINAL CALC. DIST. HEIGHTS*	MODT0970
193	C	*SCALE /BOX MT/IN(1) BY RECD DIST MTS/ST MT*	MODT0980
194	C	*ADD M'/IN W AND HISC FOR FINAL DIST(2)*	MODT0991
195	DO 114 N=1,10		MODT0990
196	TST(1) = TGIN(N) - TGIN		MODT1000
197	TST(2) = TPKLN(N)/WPLN(N)		MODT1010
198	TST(3) = TST(2)*TBP(N) + TBP(N) + WBP(N)		MODT1020
199	TST(4) = TST(2)*TBP(N+1) + TBP(N+1) + WBP(N+1)		MODT1030
200	CC(N+77) = (TST(4) - TST(3))/TST(1)		MODT1040
201	CC(N+57) = TST(3) - CC(N+77)*TGIN		MODT1050
202	114 CONTINUE		MODT1060
203	C		MODT1070
204	C		MODT1080
205	C	***DO INTEGRATION. V.M.T ONLY FOR GH(1,3)***	MODT1090
206	C	***CALC INERTIA DATA FOR GH(2)***	MODT1100
207	CC(100) = DC(5)		MODT1120
208	IF (IGH - NO(2)) 117,115,117		MODT1130
209	(15 CC(100) = D(1))		MODT1140
210	C		MODT1150
211	C		MODT1160
212	117 CALL TBPM		MODT1170

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
213	C		MODT1180
214	C	**CALC. BOX C.G.**	MODT1190
215		MCQ(104+66) = TCS(158)/TCS(147) * TG(11)	MODT1200
216		MCQ(104+69) = TCS(189)/TCS(147)	MODT1210
217		TST(8) = MCQ(104+66)*COS(3)	MODT1220
218		TST(7) = TST(8)*TAN(3) + CCL(3)	MODT1230
219		MCQ(104+80) = TST(8) + MCQ(104+69)*SIN(3)	MODT1240
220		MCQ(104+83) = TST(7) - MCQ(104+69)*COS(3)	MODT1250
221	C		MODT1260
222	C	**C.G. FOR MISC+BOX CG**	MODT1270
223		DO 110 I=1,4	MODT1280
224		N = ND(3)*I + 104 - ND(3)	MODT1290
225		MCQ(N+108) = MCQ(N+68)	MODT1300
226		MCQ(N+48) = MCQ(N+68)	MODT1310
227		MCQ(N+96) = CCL(11)*I+2	MODT1320
228	110	CONTINUE	MODT1330
229	C		MODT1340
230	C	**LE,TE,C-SEC,PIVOT**	MODT1350
231		MCQ(104+72) = CCM(27)	MODT1360
232		MCQ(104+75) = CCM(28)	MODT1370
233		MCQ(104+84) = CCM(29)	MODT1380
234		MCQ(104+87) = CCM(30)	MODT1390
235		IF (CS4D) 1181,1181,1180	MODT1395
236	1180	MCQ(104+24) = BS(02/D)2	MODT1400
237		MCQ(104+27) = XSEC	MODT1410
238	1181	IF (YPT) 1183,1183,1182	MODT1415
239	1182	MCQ(104+36) = YPVT	MODT1420
240		MCQ(104+39) = XPVT	MODT1430
241		MCQ(104+42) = YSPVT	MODT1440
242		MCQ(104+45) = XSPVT	MODT1450
243	C		MODT1460
244	C	**TOTAL OPAK AND SURFACE**	MODT1470
245	1183	MCQ(104+12) = MCQ(104+60)*CTBH(104) + MCQ(104+72)*CTBH(105) + MCQ(104+84)*CTBH(106) + MCQ(104+96)*CTBH(108) + MCQ(104+108)*CTBH(107)	MODT1480
246		MODT1490	
247	C		MODT1500
248		MCQ(104+15) = MCQ(104+63)*CTBH(104) + MCQ(104+75)*CTBH(105) + MCQ(104+87)*CTBH(106) + MCQ(104+99)*CTBH(108) + MCQ(104+111)*CTBH(107)	MODT1520
249		MODT1530	
250	C		MODT1530
251	C		MODT1539
252		MCQ(104) = (MCQ(104+12) + MCQ(104+24)*CTBH(103) + MCQ(104+36)*CTBH(102)) / CTBH(100)*DELWG	MODT1540
253		MODT1550	
254	C		MODT1559
255		MCQ(104+3) = (MCQ(104+15) + MCQ(104+27)*CTBH(103) + MCQ(104+39)*CTBH(102)) / CTBH(100)*DELWG	MODT1560
256		MODT1570	
257	C		MODT1580
258	C		MODT1589
259		MCQ(104+12) = MCQ(104+12)/CTBH(101)*DELWG	MODT1590
260		MCQ(104+15) = MCQ(104+15)/CTBH(101)*DELWG	MODT1600
261	C		MODT1610
262	C		MODT1620
263	C		MODT1630
264	C	**SHEPT C.G. (15,8) = LE,TE*	MODT1640
265		DO 124 I=1,6	MODT1650
266		N = ND(12)*I + 104 - ND(12)	MODT1660
267		IF (ND(14) - 1) 119,120,121	MODT1670
268	119	N = N + ND(12) + ND(12)	MODT1680
269		GO TO 123	MODT1690
270	C		MODT1700
271	C	**TEST PIVOT*	MODT1710
272	120	IF (CTBH(102)) 124,124,123	MODT1720
273	C		MODT1730
274	C	**TEST C-SEC*	MODT1740
275	121	IF (ND(3) - 1) 122,122,123	MODT1750
276	122	IF (CTBH(103)) 124,124,123	MODT1760
277	123	TST(7) = MCQ(N)*TAN(3) + CCL(3) - MCQ(N+3)	MODT1770
278		MCQ(N+6) = MCQ(N)/COS(3) - TST(7)*SIN(3)	MODT1780
279		MCQ(N+9) = TST(8)*COS(3)	MODT1790
280	C		MODT1800
281	124	CONTINUE	MODT1810
282	C		MODT1811
283	C	**CHECK FOR BK PRINT**	MODT1812

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
284	C	PRINT ON IP 38	MOOT1813
285	IF (IP(38)) 1240,1240,125		MOOT1814
286	1240 WRITE (6,900)104		MOOT1815
287	900 FORMAT (47H) ***MODATA SUBR. MCO AND CTBW ARRAYS***		
288	I 424,214** MODATA - IP(38) **/1240 104,12		
289	901 FORMAT (640 MCO)		
290	902 FORMU: (1H 14,SE18.8)		
291	903 FORMAT (640 CTBW)		
292	WRITE (6,901)		
293	DO 905 11=1,125.5		
294	IK = 11 + ND(4)		
295	WRITE (6,902)11,(MCO(11),1=11,IK,1)		
296	905 CONTINUE		
297	WRITE (6,903)		
298	DO 904 11=1,150.5		
299	IK = 11 + ND(4)		
300	WRITE (6,902)11,(CTBW(11),1=11,IK,1)		
301	904 CONTINUE		
302	C		
303	C		MOOT1820
304	C	***GM LOOP TEST***	MOOT1821
305	125 IF (104 - ND(2)) 126,126,127		MOOT1825
306	126 104 = ND(2)		MOOT1830
307	GO TO 110		MOOT1835
308	127 104 = ND(1)		MOOT1840
309	GO TO 110		MOOT1844
310	C		MOOT1846
311	C	***SAVE CTBI ARRAY DATA ON RCD 155. TCS(1-150)***	MOOT1847
312	128 CALL WRITHS (1,TCS(1),150,155)		MOOT1848
313	C		MOOT1848
314	C	***SAVE E,O ARRAYS CTBW(111-133) IN TWT(857-878). GM(2)***	MOOT1848
315	DO 1280 1=1,22		MOOT1848
316	TW(1+856) = CTBW(1+110)		MOOT1848
317	1280 CONTINUE		MOOT1848
318	C		MOOT1848
319	C		MOOT1848
320	C	***SAVE CALC (10) YAW DATA--UP-DATE RCD***	MOOT1848
321	C	***100 DATA STORED ON RCD 190. READ, UPDATE AND WRITE**	MOOT1848
322	CALL READHS (1,CC(1),150,190)		MOOT1848
323	DO 1281 1=1,10		MOOT1848
324	CC(1) = TCS(1+200)		MOOT1848
325	1281 CONTINUE		MOOT1848
326	CALL WRITHS (1,CC(1),150,190)		MOOT1848
327	C		MOOT1848
328	C	FROM CTBW(23-47). MOVE TO CC(161-185) FOR	MOOT1848
329	C	SUBRS WLOD AND WFOO*	MOOT1848
330	C	***SAVE E(1-11), OJ(1-11), E, G AND R40 IN TWT(576-600)	MOOT1848
331	DO 1282 1=1,25		MOOT1848
332	TW(1+575) = CTBW(1+22)		MOOT1848
333	1282 CONTINUE		MOOT1848
334	C		MOOT1848
335	C	***SET PRD HT DATA--CD(400-699), 1800-1099)***	MOOT1849
336	C	RCDS 184-189, 100/RCO*	MOOT1849
337	CALL READHS (1,CD(400),100,184)		MOOT1850
338	CALL READHS (1,CD(500),100,185)		MOOT1851
339	CALL READHS (1,CD(600),100,186)		MOOT1852
340	CALL READHS (1,CD(800),100,187)		MOOT1853
341	CALL READHS (1,CD(900),100,188)		MOOT1854
342	CALL READHS (1,CD(1000),100,189)		MOOT1855
343	C		MOOT1858
344	C	***PRINT WEIGHT SUMMARY DATA***	MOOT1860
345	130 CALL PRD		MOOT1870
346	C		MOOT1880
347	C		MOOT1900
348	C	***CALC TOTAL OPNL INERTIA***	MOOT1910
349	C		MOOT1920
350	C		MOOT1930
351	C	***DO STRIP DATA OUTPUT***	MOOT1940
352	C	***SETUP STORAGE WITH MASS DIST. DATA ARRAYS**	MOOT1950
353	C	LE,TE,MISC,FUEL,CCDL1,CTBI ARRAYS*	MOOT1960
354	C	RC5 148=CLE1, 150=CTE1, 151=CFL11, 152=CFL21*	MOOT1970

88/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
365	C	*RCD 153=CH11, 154=CCOL1, 155=CTB1*	MODT4071
366	C	*RCD 180=110) YAW FOR TB,LE,TE,MISC,COL,FL1,FL2*	MODT4072
367	C	*FLEX LOADS SYS ONLY--ACRO, 10 PANELS, 81/2 - 81/2*	MODT4073
368	C		MODT4079
369	201	CALL READMS (1,CLE1(1),150,149)	MODT4080
370		CALL READMS (1,CTE1(1),150,150)	MODT4085
371		CALL READMS (1,CFL1(1),150,151)	MODT4090
372		CALL READMS (1,CFL2(1),150,152)	MODT4095
373		CALL READMS (1,CH1(1),150,153)	MODT4100
374		CALL READMS (1,CCOL1(1),150,154)	MODT4105
375		CALL READMS (1,CTB1(1),150,155)	MODT4110
376		CALL READMS (1,C10Y(1),150,180)	MODT4115
377	C		MODT4118
378	C	***APPLY DELTA WING, LE, TE TO CALC MASS DATA***	MODT4119
379		DO 202 1=1,148	MODT4120
380		CLE1(1) = DMGLE*CLE1(1)	MODT4121
381		CTE1(1) = DMGTE*CTE1(1)	MODT4122
382		CTB1(1) = DELMG*CTB1(1)	MODT4125
383	202	CONTINUE	MODT4126
384	C		MODT4127
385		DO 2020 1=1,10	MODT4127
386		C10Y(1) = DELMG*C10Y(1)	MODT4127
387		C10Y(1+10) = DMGLE*C10Y(1+10)	MODT4127
388		C10Y(1+20) = DMGTE*C10Y(1+10)	MODT4127
389	2020	CONTINUE	MODT4127
390	C		MODT4127
391	C	***CHECK BK PRINT (F PWS DIST. DATA ARRAYS)***	MODT4128
392	C	*PRINT ON IP 38*	
393		IF (IP(38))203,203,250	
394	203	WRITE (6,204)	MODT4131
395	C		MODT4132
396	204	FORMAT (70H1) ---TORQUE-BOX HEIGHT DISTRIBUTION SUMMARY---MODT4133	
397		1-CTB1 ARRAY---,15X,21H** MODATA - IP(38) **/B40 CTB1)	
398	2040	FORMAT (72H1) ---LEADING EDGE HEIGHT DISTRIBUTION SUMMARY---MODT4135	
399		1Y--CLE1 ARRAY---,17X,21H** MODATA - IP(38) **/B40 CLE1)	
400	2041	FORMAT (74H1) ---TRAILING EDGE HEIGHT DISTRIBUTION SUMMARY---MODT4137	
401		1RY--CTE1 ARRAY---,15X,21H** MODATA - IP(38) **/B40 CTE1)	
402	2042	FORMAT (80H1) ---MISC. STRUCTURE AND CONTENTS HEIGHT DISTRIBUTION SUMMARY---MODT4139	
403		1TRIBUTION SUMMARY---CH11 ARRAY---,15X,21H** MODATA - IP(38) **/	
404		2 B40 CH11)	
405	2043	FORMAT (72H1) ---FUEL CELL 1 HEIGHT DISTRIBUTION SUMMARY---MODT4141	
406		1--CFL1 ARRAY---, 17X,21H** MODATA - IP(38) **/B40 CFL1)	
407	2044	FORMAT (72H1) ---FUEL CELL 2 HEIGHT DISTRIBUTION SUMMARY---MODT4143	
408		1--CFL2 ARRAY---, 17X,21H** MODATA - IP(38) **/B40 CFL2)	
409	2045	FORMAT (80H1) ---EXTERNAL CONC. MASS HEIGHT DISTRIBUTION---MODT4145	
410		1 SUMMARY--CCOL1 ARRAY---, 8X,21H** MODATA - IP(38) **/B40CCOL1)	
411	2046	FORMAT (11H 14,5E10.0) MODT4147	
412	2047	FORMAT(11H1,8BX,21H** MODATA - IP(38) **/	
413		1 100H ---110)YAW DATA FOR TB,LE,TE,MISC,COL,FL1,MODT4148	
414		1,FL2 (FLEX LOADS, AERO SYSTEM)--C10Y ARRAY---,/B40 C10Y)	MODT4148
415	C		MODT4148
416		DO 205 11=1,150,5	MODT4149
417		KK = 11 + MD(4)	MODT4150
418		WRITE (6,2048)11,(CTB1(1),1=11,KK,1)	MODT4151
419	205	CONTINUE	MODT4152
420	C		MODT4153
421		WRITE (6,2049)	MODT4154
422		DO 2050 11=1,150,5	MODT4155
423		KK = 11 + MD(4)	MODT4156
424		WRITE (6,2048)11,(CLE1(1),1=11,KK,1)	MODT4157
425	2050	CONTINUE	MODT4158
426	C		MODT4159
427		WRITE (6,2041)	MODT4160
428		DO 2051 11=1,150,5	MODT4161
429		KK = 11 + MD(4)	MODT4162
430		WRITE (6,2048)11,(CTE1(1),1=11,KK,1)	MODT4163
431	2051	CONTINUE	MODT4164
432	C		MODT4165
433		WRITE (6,2042)	MODT4166
434		DO 2052 11=1,150,5	MODT4167
435		KK = 11 + MD(4)	MODT4168

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	CONTENTS		
426	WRITE (6,2046)11,(CH11(1),1=11,KK,1)		MODT4169
427	2052 CONTINUE		MODT4170
428	C		MODT4171
429	WRITE (6,2043)		MODT4172
430	DO 2053 11=1,150.5		MODT4173
431	KK = 11 + ND(4)		MODT4174
432	WRITE (6,2046)11,(CFL11(1),1=11,KK,1)		MODT4175
433	2053 CONTINUE		MODT4176
434	C		MODT4177
435	WRITE (6,2044)		MODT4178
436	DO 2054 11=1,150.5		MODT4179
437	KK = 11 + ND(4)		MODT4180
438	WRITE (6,2046)11,(CFL21(1),1=11,KK,1)		MODT4181
439	2054 CONTINUE		MODT4182
440	C		MODT4183
441	WRITE (6,2045)		MODT4184
442	DO 2055 11=1,150.5		MODT4185
443	KK = 11 + ND(4)		MODT4186
444	WRITE (6,2046)11,(CCOL1(1),1=11,KK,1)		MODT4187
445	2055 CONTINUE		MODT4188
446	C		MODT4189
447	WRITE (6,2047)		MODT4190
448	DO 2056 11=1,150.5		MODT4191
449	KK = 11 + ND(4)		MODT4192
450	WRITE (6,2046)11,(CLOY1(1),1=11,KK,1)		MODT4193
451	2056 CONTINUE		MODT4194
452	C		MODT4199
453	C ***CALC TOTAL OPNL INERTIA AND PRINT SUMMARY***		MODT4200
454	C *USE FLEX LOADS DATA--ACRO SYSTEM*		MODT4210
455	250 DO 251 1=1,300		MODT4220
456	CC(1) = CC(1)		MODT4230
457	251 CONTINUE		MODT4240
458	C		MODT4250
459	C ***CALC STRUCT, MISC CONTENTS AND TOTAL FUEL INERTIA***		MODT4260
460	DO 260 1= 10		MODT4270
461	CC(1+67) = CTB1(1+91) + CLE1(1+91) + CTE1(1+91)		MODT4280
462	CC(1+67) = CC(1+67) + CC(1+67)		MODT4290
463	CC(1+70) = CTB1(1+102) + CLE1(1+102) + CTE1(1+102)		MODT4300
464	CC(1+89) = CTB1(1+113) + CLE1(1+113) + CTE1(1+113)		MODT4310
465	CC(1+100) = CTB1(1+124) + CLE1(1+124) + CTE1(1+124)		MODT4320
466	CC(1+111) = CTB1(1+135) + CLE1(1+135) + CTE1(1+135)		MODT4330
467	CC(1+172) = CLOY1(1) + CLOY1(1+10) + CLOY1(1+20)		MODT4335
468	C		MODT4340
469	CC(1+133) = CH11(1+91) + CLOY1(1+70)		MODT4350
470	CC(1+133) = CC(1+133) + CC(1+133)		MODT4360
471	CC(1+144) = CH11(1+102) + CLOY1(1+80)		MODT4370
472	CC(1+155) = CH11(1+113) + CLOY1(1+90)		MODT4380
473	CC(1+166) = CH11(1+124) + CLOY1(1+100)		MODT4390
474	CC(1+177) = CH11(1+135) + CLOY1(1+110)		MODT4400
475	CC(1+188) = CLOY1(1+30) + CLOY1(1+40)		MODT4405
476	C		MODT4410
477	CC(1+199) = CFL11(1+91) + CFL21(1+91)		MODT4420
478	CC(1+199) = CC(1+199) + CC(1+199)		MODT4430
479	CC(1+210) = CFL11(1+102) + CFL21(1+102)		MODT4440
480	CC(1+221) = CFL11(1+113) + CFL21(1+113)		MODT4450
481	CC(1+232) = CFL11(1+124) + CFL21(1+124)		MODT4460
482	CC(1+243) = CFL11(1+135) + CFL21(1+135)		MODT4470
483	CC(1+254) = CLOY1(1+50) + CLOY1(1+60)		MODT4480
484	C		MODT4480
485	CC(1+1) = CC(1+67) + CC(1+133) + CC(1+199)		MODT4500
486	CC(1) = CC(1) + CC(1+1)		MODT4510
487	CC(1+12) = CC(1+70) + CC(1+144) + CC(1+210)		MODT4520
488	CC(1+23) = CC(1+89) + CC(1+155) + CC(1+221)		MODT4521
489	CC(1+34) = CC(1+100) + CC(1+166) + CC(1+232)		MODT4522
490	CC(1+45) = CC(1+111) + CC(1+177) + CC(1+243)		MODT4523
491	CC(1+56) = CC(1+188) + CC(1+188) + CC(1+254)		MODT4524
492	C		MODT4529
493	IF (CC(1+67)) 252,253,252		MODT4530
494	252 CC(1+70) = CC(1+70)/CC(1+67)		MODT4540
495	CC(1+89) = CC(1+89)/CC(1+67)		MODT4550
496	CC(1+122) = CC(1+122) - CC(1+67)/(CC(1+89)+CC(1+89) + CC(1+70))		MODT4555

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
487	10)CC(1)70)		MODT4556
488	CC(1)100) = CC(1)100) - CC(1)67)CC(1)89)CC(1)89)		MODT4560
489	CC(1)111) = CC(1)111) - CC(1)67)CC(1)70)CC(1)70)		MODT4570
500	C		MODT4580
501	253 IF (CC(1)133) 254,255,254		MODT4590
502	254 CC(1)144) = CC(1)144)/CC(1)133)		MODT4600
503	CC(1)155) = CC(1)155)/CC(1)133)		MODT4610
504	CC(1)188) = CC(1)188) - CC(1)133)CC(1)155)CC(1)155) + CC(1)MODT4615		
505	1)144)CC(1)144)		MODT4616
506	CC(1)188) = CC(1)188) - CC(1)133)CC(1)155)CC(1)155)		MODT4620
507	CC(1)177) = CC(1)177) - CC(1)133)CC(1)144)CC(1)144)		MODT4630
508	C		MODT4640
509	255 IF (CC(1)199) 256,257,256		MODT4650
510	256 CC(1)210) = CC(1)210)/CC(1)199)		MODT4660
511	CC(1)221) = CC(1)221)/CC(1)199)		MODT4670
512	CC(1)254) = CC(1)254) - CC(1)199)CC(1)221)CC(1)221) + CC(1)MODT4675		
513	1)210)CC(1)210)		MODT4676
514	CC(1)232) = CC(1)232) - CC(1)199)CC(1)221)CC(1)221)		MODT4680
515	CC(1)243) = CC(1)243) - CC(1)199)CC(1)210)CC(1)210)		MODT4690
516	C		MODT4700
517	257 IF (CC(1)1) 258,259,258		MODT4710
518	258 CC(1)12) = CC(1)12)/CC(1)1)		MODT4720
519	CC(1)23) = CC(1)23)/CC(1)1)		MODT4730
520	CC(1)156) = CC(1)156) - CC(1)1)CC(1)23)CC(1)23) + CC(1)12)MODT4735		
521	1)CC(1)12)		MODT4736
522	CC(1)134) = CC(1)134) - CC(1)1)CC(1)23)CC(1)23)		MODT4740
523	CC(1)145) = CC(1)145) - CC(1)1)CC(1)12)CC(1)12)		MODT4750
524	C		MODT4760
525	259 CC(1)70) = CC(1)70) + TGA(1)22)		MODT4770
526	CC(1)89) = CC(1)89) + TGA(1)32)		MODT4780
527	CC(1)144) = CC(1)144) + TGA(1)22)		MODT4790
528	CC(1)155) = CC(1)155) + TGA(1)32)		MODT4800
529	CC(1)210) = CC(1)210) + TGA(1)22)		MODT4810
530	CC(1)221) = CC(1)221) + TGA(1)32)		MODT4820
531	CC(1)12) = CC(1)12) + TGA(1)22)		MODT4830
532	CC(1)23) = CC(1)23) + TGA(1)32)		MODT4840
533	C		MODT4850
534	CC(1)70) = CC(1)70) + CC(1)67)CC(1)70)		MODT4860
535	CC(1)89) = CC(1)89) + CC(1)67)CC(1)89)		MODT4870
536	CC(1)144) = CC(1)144) + CC(1)133)CC(1)144)		MODT4880
537	CC(1)155) = CC(1)155) + CC(1)133)CC(1)155)		MODT4890
538	CC(1)210) = CC(1)210) + CC(1)199)CC(1)210)		MODT4900
539	CC(1)221) = CC(1)221) + CC(1)199)CC(1)221)		MODT4910
540	CC(1)12) = CC(1)12) + CC(1)1)CC(1)12)		MODT4920
541	CC(1)23) = CC(1)23) + CC(1)1)CC(1)23)		MODT4930
542	C		MODT4940
543	260 CONTINUE		MODT4950
544	C		MODT4960
545	C		MODT4970
546	IF (CC(1)67) 261,262,261		MODT4980
547	261 CC(1)70) = CC(1)70)/CC(1)67)		MODT4990
548	CC(1)89) = CC(1)89)/CC(1)67)		MODT5000
549	262 IF (CC(1)133) 263,264,263		MODT5010
550	263 CC(1)144) = CC(1)144)/CC(1)133)		MODT5020
551	CC(1)155) = CC(1)155)/CC(1)133)		MODT5030
552	264 IF (CC(1)199) 265,266,265		MODT5040
553	265 CC(1)210) = CC(1)210)/CC(1)199)		MODT5050
554	CC(1)221) = CC(1)221)/CC(1)199)		MODT5060
555	266 IF (CC(1)1) 267,268,267		MODT5070
556	267 CC(1)12) = CC(1)12)/CC(1)1)		MODT5080
557	CC(1)23) = CC(1)23)/CC(1)1)		MODT5090
558	C		MODT5100
559	268 DO 269 I=1,10		MODT5110
560	CC(1)89) = CC(1)70) - CC(1)70)		MODT5120
561	CC(1)89) = CC(1)89) - CC(1)89)		MODT5130
562	CC(1)100) = CC(1)100) + CC(1)100) + CC(1)67)CC(1)265)CC(1)265)		MODT5140
563	CC(1)111) = CC(1)111) + CC(1)111) + CC(1)67)CC(1)265)CC(1)265)		MODT5150
564	CC(1)122) = CC(1)122) + CC(1)122) + CC(1)67)CC(1)265)CC(1)265)		MODT5155
565	I CC(1)265)CC(1)265)		MODT5156
566	C		MODT5160
567	CC(1)265) = CC(1)144) - CC(1)144)		MODT5170

CARD NO	CONTENTS	MOD
968	CC(1266) = CC(1195) - CC(11195)	MOD15180
969	CC(1186) = CC(1186) + CC(11186) + CC(11133)*CC(1266)*CC(1266)	MOD15190
970	CC(1177) = CC(1177) + CC(11177) + CC(11133)*CC(1265)*CC(1265)	MOD15200
971	CC(1188) = CC(1188) + CC(11188) + CC(11133)*CC(1266)*CC(1266)	MOD15205
972	I CC(1265)*CC(1265)	MOD15206
973	C	MOD15210
974	CC(1265) = CC(1210) - CC(111210)	MOD15220
975	CC(1266) = CC(1221) - CC(111221)	MOD15230
976	CC(1232) = CC(1232) + CC(111232) + CC(11199)*CC(1266)*CC(1266)	MOD15240
977	CC(1243) = CC(1243) + CC(111243) + CC(11199)*CC(1265)*CC(1265)	MOD15250
978	CC(1294) = CC(1294) + CC(111294) + CC(11199)*CC(1266)*CC(1266)	MOD15255
979	I CC(1265)*CC(1265)	MOD15256
980	C	MOD15260
981	CC(1265) = CC(112) - CC(11112)	MOD15270
982	CC(1266) = CC(123) - CC(11123)	MOD15280
983	CC(134) = CC(134) + CC(11134) + CC(111)*CC(1266)*CC(1266)	MOD15290
984	CC(145) = CC(145) + CC(11145) + CC(111)*CC(1265)*CC(1265)	MOD15300
985	CC(156) = CC(156) + CC(11156) + CC(111)*CC(1266)*CC(1266) + CC(111)	MOD15310
986	(1265)*CC(1265)	MOD15320
987	C	MOD15330
988	200 CONTINUE	MOD15340
989	C	MOD15350
990	***TOTALS/AV***	MOD15360
991	CC(1267) = D(2)*CC(111)/N*V1D	MOD15370
992	CC(1268) = CC(123)	MOD15380
993	CC(1269) = CC(112)	MOD15390
994	CC(1270) = CC(14)	MOD15400
995	CC(1271) = D(2)*CC(134)/N*V1D	MOD15410
996	CC(1272) = D(2)*N*V1D*(CC(145) + CC(111)*CC(112)*CC(112))	MOD15420
997	CC(1273) = D(2)*N*V1D*(CC(156) + CC(111)*CC(112)*CC(112))	MOD15430
998	C	MOD15440
999	C ***CHECK FOR VERT AND HORI***	MOD15450
000	IF (V1D) 272,274,279	MOD15460
001	C	MOD15470
002	270 CC(1265) = CC(1270)	MOD15480
003	CC(1268) = CC(1273)	MOD15490
004	CC(1270) = CC(1269)	MOD15500
005	CC(1273) = CC(1272)	MOD15510
006	CC(1269) = CC(1265)	MOD15520
007	CC(1272) = CC(1268)	MOD15530
008	DO 271 I=34,232,86	MOD15540
009	CC(1265) = CC(111)	MOD15550
010	CC(111) = CC(11122)	MOD15560
011	CC(11122) = CC(1265)	MOD15570
012	271 CONTINUE	MOD15580
013	GO TO 274	MOD15590
014	C	MOD15600
015	C ***HORI--CHECK FOR T-TAIL VERT--SAVE MASS DATA IN RCD 30***	MOD15610
016	272 IF (T1D) 274,274,273	MOD15610
017	273 CALL READP(1,DUPPY(1),50,30)	
018	C	
019	DO 8000 N=1,7	
020	8000 DUPPY(N) = CC(111+265)	
021	C	
022	CALL WRITP(1,DUPPY(1),50,30)	
023	C	MOD15630
024	C ***CHECK FOR SUPPLY PRINT--IP 30***	
025	274 IF (IP(36))275,275,210	
026	275 WRITE (6,276)N*CASE, CC(1268),CC(1267),CC(1269),DC(3),CC(1270)MOD15670	
027	1,CC(1271),CC(1272),CC(1273)	MOD15671
028	C	MOD15679
029	276 FORMAT(1H1,5X,N*CASE,14,T42,31H---SURFACE INERTIA SUMMARY---, MOD15680	
030	1 T99,21H---MODATA = (P(36) **//T12,63H---TOTAL EXPOSED PANEL INERTMOD15685	
031	2A ABOUT SURFACE CENTER-LINE AT F.S.,F0.2,BH**//7X,54LB/AV,4X, MOD15690	
032	3 7AFUS/STA,4X,7AB/PLANE,3X,7AC/PLANE,2X,17H1/PITCH(LB-IN**2),2X, MOD15700	
033	4 18H1/ROLL(LB-IN**2),2X,19H1/YAW(LB-IN**2), MOD15710	
034	5 2X,F10.1,BF11.2,F10.2,3E10.0)	MOD15720
035	C	MOD15730
036	277 FORMAT(1H0,T25,31H---PANEL INERTIA ABOUT EXPOSED PANEL CO---PER S(MOD15740	
037	1E---//3X,WHITE,5X,7ALB/SIDE,4X,7AFUS/STA,4X,7AB/PLANE,3X, MOD15745	
038	2 7AC/PLANE,2X,17H1/PITCH(LB-IN**2),2X,18H1/ROLL(LB-IN**2),2X, MOD15750	

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	HING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
030	3 (SHI/YAH(LB-IN**2))	MODT5760	
040	C	MODT5769	
041	270 FORMAT (9H STRUCT*,F10.1,2F11.2,F10.2,E17.0,2E10.0,9H MISC** ,F10.1,2F11.2,F10.2,E17.0,2E10.0,9H FUEL ,F10.1,2F11.2,F10.2,E17.0,2E10.0,9H TOTAL ,F10.1,2F11.2,F10.2,E17.0,2E10.0)	MODT5770	
042		MODT5780	
043		MODT5790	
044	C	MODT5799	
045	270 FORMAT (42H0 NOTE--DOES NOT INCLUDE C-SEC OR PIVOT.,/50H	MODT5800	
046	1**TIP PANEL MASS DATA INCLUDED WITH MISC CONTENTS.)	MODT5810	
047	C	MODT5820	
048	WRITE (6,277)	MODT5830	
049	WRITE (6,278) CCI(67),CCI(89),CCI(70),CCI(270),CCI(100),CCI(111),CCI(112),CCI(133),CCI(155),CCI(144),CCI(270),CCI(166),CCI(177),CCI(1100T5850	MODT5850	
050	280 CCI(199),CCI(221),CCI(210),CCI(270),CCI(232),CCI(243),CCI(254)MODT5860	MODT5860	
051	3,CCI(11),CCI(123),CCI(112),CCI(270),CCI(134),CCI(145),CCI(156)	MODT5870	
052		MODT5880	
053	C	MODT5890	
054	WRITE (6,279)	MODT5900	
055	C	MODT5910	
056	***TEST FOR DUMP OF CCI ARRAY--IP 38***	MODT5920	
057	IF (IP(38)) 200,200,210	MODT5930	
058	200 WRITE (6,281)	MODT5940	
059	201 FORMAT (70H) ---PANEL INERTIA SUMMARY. FLEX LOADS (AEROMODT5950	MODT5950	
060	1) SYSTEM--CCI ARRAY---,11X,21H** MODATA - IP(38) **END CCI)	MODT5960	
061	202 FORMAT (1H 14,5E10.0)	MODT5970	
062	C	MODT5980	
063	DO 203 11=1,275,5	MODT5990	
064	JK = 11 + MD(4)	MODT6000	
065	WRITE (6,20211), (CCI(11),1=11,JK,1)	MODT6010	
066	203 CONTINUE	MODT6020	
067	C	MODT6129	
068	C	MODT6130	
069	***PROCESS AND PUNCH STRIP DATA FOR FLEX LOAD ANALYSIS***MODT6140	MODT6140	
070	C **ID=IDINID-1 OR 2**	MODT6141	
071	C	MODT6142	
072	***RESET CCI(161-185) FOR WFLD0 AND WFD0***	MODT6143	
073	210 DO 2100 1=1,25	MODT6144	
074	CCI(11+160) = TM(1+575)	MODT6145	
075	2100 CONTINUE	MODT6149	
076	C		
077	IF (IDINID) 299,299,209		
078	C		
079	209 IF (IDINID - D(2)) 211,211,221		
080	211 CALL WFLD0		
081	C		
082	C		
083	C		
084	***PROCESS AND PUNCH STRIP DATA FOR FLUTTER OPTI. ANALYSISMODT6200	MODT6210	
085	C **ID=IDINID-1 OR 3**	MODT6220	
086	220 IF (IDINID - D(2)) 221,299,221	MODT627.	
087	221 CALL WFD0	MODT6900	
088	C	MODT6900	
089	C	MODT6900	
090	299 RETURN	MODT6990	
091	END	MODT6999	
092	C		
093	C		
094	C		
095	C		
096	C		
097	C		
098	C		
099	SUBROUTINE PRD0	PRD0010	
700	C	PRD0019	
701	C	PRD0020	
702	C	PRD0030	
703	C	PRD0040	
704	C	PRD0060	
705	COMMON T(2060),D(2060),CD(2000),MD(100),TM(900)	PRD0070	
706	COMMON /IPRINT/ IP(80)	PRD0071	
707	COMMON /MISC/ NMISC(100)	PRD0076	
708	COMMON /FDAT/ FDAT(60)	PRD0073	
709	C	PRD0080	

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
710	C		PRTD0190
711		DIMENSION DC(100),TS(520),R(16),	PRTD0200
712		ZT00M(4),DOM(3),MFL(3),	PRTD0202
713		IMCO(126),MTLT(8),	PRTD0203
714		NCCM(50),	PRTD0204
715		IDELC(15),DEL(30),DELCS(30),DELPV(7)	PRTD0209
716	C		PRTD0210
717		EQUIVALENCE (DC(1),D(140)),(TS(1),TM(1)),(MCO(1),TM(70)),	PRTD0220
718		1(R(1),MISC(85)),(ID4TB,T(182)),	PRTD0221
719		Z(CNSID,D(146)),	PRTD0222
720		3(VT(10,D(289)),(MFL(1),T(97)),(T00M(1),D(80)),(DOM(1),D(102)),	PRTD0223
721		4(OPHZ,T(118)),(OPHZ,T(19)),(OPHZ,T(20)),(OPHZ,T(21)),	PRTD0224
722		5(DELMO,T(187)),(MTLT(1),TM(879)),(DELLE,T(1189)),(DELTE,T(1190)),	PRTD0225
723		6(STOT,T(11)),(SEXP,T(2)),(SPBOX,T(24)),(SCSEC,T(95)),	PRTD0226
724		7(SPLE,T(25)),(SPTE,T(26)),(STIP,T(17)),(DYPVT,D(200)),	PRTD0227
725		8(I,ND(27)),(J,ND(28)),(K,ND(29)),(L,ND(30)),(M,ND(31)),	PRTD0228
726		9(INCAB,ND(60)), (MATL,ND(21))	PRTD0229
727	C		PRTD0230
728	C		PRTD0240
729		EQUIVALENCE (DEL(1),T(187)),(DEL(1),TM(827)),(DELCS(1),D(146)),	PRTD0250
730		1(CCM(1),CD(1)),	PRTD0251
731		2(OLTBX,T(188)),(DMOLE,T(193)),(ID4TE,T(1194)),	PRTD0252
732		3(DELPV(1),D(530))	PRTD0259
733	C		PRTD0260
734	C		PRTD0270
735	C		PRTD0330
736	C		PRTD0340
737	C	TYPE D PAGE PRINT -- 3 ON WEIGHT SUMMARY TABLE 2 PAGES	PRTD0350
738	C		PRTD0360
739	C	SETUP MT/50 FT. AND TOTALS DATA	PRTD0370
740	C	DATA STORED IN CD(400-699) OM1=400, OM2=500, OM3=600	PRTD0380
741	C		PRTD0430
742	C	CLEAR STORAGE	PRTD0440
743	400	DO 401 1=1,500	PRTD0450
744		TS(1)=DC(13)	PRTD0460
745	401	CONTINUE	PRTD0470
746	C		PRTD0480
747	C	PROCESS BY OM	PRTD0490
748		DO 409 1=1,3	PRTD0500
749		IF (DOM(1)) 409,409,402	PRTD0510
750	402	M=1+100+299	PRTD0520
751	C		PRTD0530
752	C	TOTAL, OPNL, C-SEC, TB, LE, TE, MISC.	PRTD0540
753	C	SUM OPNL- DELTA PIVOT, C-SEC-DELTA PIVOT, OPNL+CSEC.	PRTD0550
754	C		PRTD0560
755	C	INTERIM FORMAT--DO COMPONENT SUMMARY ONLY --NO UNIT MTS	PRTD0570
756	C	LE, TE, MISC	PRTD0580
757		TS(1+23)=CD(N+2)	PRTD0590
758		TS(1+26)=TS(1+23)/SPLE	PRTD0600
759		TS(1+29)=CD(N+3)	PRTD0610
760		TS(1+32)=TS(1+29)/SPTE	PRTD0620
761		TS(1+35)=CD(N+4)	PRTD0630
762		TS(1+38)=TS(1+35)/SEXP	PRTD0640
763	C		PRTD0649
764	C	TBOX	PRTD0650
765		TS(1+317)=CD(N+41)	PRTD0660
766		TS(1+320)=TS(1+317)/SPBOX	PRTD0670
767		TS(1+50)=TS(1+317)	PRTD0680
768	C		PRTD0689
769	C	C-SEC	PRTD0690
770		TS(1+324)=CD(N+51)+CD(N+52)	PRTD0700
771		TS(1+327)=TS(1+324)/SCSEC	PRTD0710
772		TS(1+331)=TS(1+324)	PRTD0720
773	C		PRTD0729
774	C	PIVOT, DELTAS	PRTD0730
775		TS(1+290)=CD(N+49)	PRTD0740
776		TS(1+296)=CD(N+49)	PRTD0750
777		TS(1+310)=CD(N+45)	PRTD0760
778		TS(1+303)=TS(1+290)+TS(1+296)+TS(1+310)	PRTD0770
779	C		PRTD0779
780	C	FINAL TB, CS	PRTD0780

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
701	TS(1+17)=TS(1+317)+TS(1+298)		PRTD0790
702	TS(1+20)=TS(1+17)+SBOX		PRTD0800
703	TS(1+44)=TS(1+324)+TS(1+310)		PRTD0810
704	TS(1+47)=TS(1+44)/SCSEC		PRTD0820
705	C		PRTD0829
706	C SUM OPNL AND WING		PRTD0830
707	403 TS(1+6) = TS(1+17) + TS(1+23) + TS(1+29) + TS(1+35) + CDIN+451		PRTD0840
708	TS(1+8)=TS(1+6)/SEMP		PRTD0850
709	TS(1)=TS(1+8)+TS(1+44)+TS(1+290)		PRTD0860
700	TS(1+3)=TS(1) /STOT		PRTD0870
701	C		PRTD0879
702	C DELTA W		PRTD0880
703	TS(1+12)=CDIN+41		PRTD0890
704	TS(1+41)=CDIN+41-CDIN+4041		PRTD0900
705	C		PRTD0910
706	C		PRTD0920
707	C MOVE PIVOT DESIGN DATA		PRTD0930
708	TS(1+239)=CDIN+4911		PRTD0940
709	TS(1+242)=CDIN+4961		PRTD0950
800	TS(1+245)=CDIN+4921		PRTD0960
801	TS(1+248)=CDIN+4931		PRTD0970
802	TS(1+251)=CDIN+4951		PRTD0980
803	TS(1+254)=CDIN+4941		PRTD0990
804	TS(1+257)=CDIN+4861		PRTD1000
805	TS(1+260)=CDIN+4871		PRTD1010
806	TS(1+263)=CDIN+4891		PRTD1020
807	TS(1+266)=CDIN+4871		PRTD1030
808	TS(1+269)=CDIN+5001		PRTD1040
809	TS(1+272)=CDIN+4981		PRTD1050
810	TS(1+233)= CDIN+4821/1000000.0		PRTD1060
811	TS(1+236)= CDIN+4851/1000.0		PRTD1070
812	C		PRTD1080
813	TS(1+275) = CDIN+451+DELWG		PRTD1081
814	TS(1+278) = DC(3)		PRTD1082
815	IF (STIP) 405,405,404		PRTD1083
816	404 TS(1+278) = TS(1+275)/STIP		PRTD1084
817	405 TS(1+281) = CDIN+481+QNGTB		PRTD1085
818	C		PRTD1089
819	C LOOP ON QW(1)		PRTD1090
820	409 CONTINUE		PRTD1100
821	C APPLY DEL. (WING)		PRTD1110
822	DO 407 I=1,56		PRTD1120
823	TS(1) = TS(1)+DELWG		PRTD1130
824	407 CONTINUE		PRTD1140
825	DO 408 I=1,8		PRTD1150
826	TS(1+290) = TS(1+290)+DELWG		PRTD1160
827	TS(1+296) = TS(1+296)+DELWG		PRTD1170
828	TS(1+303) = TS(1+303)+DELWG		PRTD1180
829	TS(1+310) = TS(1+310)+DELWG		PRTD1190
830	TS(1+317) = TS(1+317)+DELWG		PRTD1200
831	TS(1+324) = TS(1+324)+DELWG		PRTD1210
832	408 CONTINUE		PRTD1220
833	C		PRTD1230
834	C		PRTD1420
835	C		PRTD1430
836	TS(324)=SBOX		PRTD1440
837	TS(331)=SCSEC		PRTD1450
838	C		PRTD1460
839	C		PRTD1462
840	C *****TEST CONSTRUCTION*****		PRTD1463
841	410 WRITE (6,4100)INCB		
842	4100 FORMAT (10H,CASE14,PSX,15H,EIGHT SUPPLY,.,50X,10H,PRD **)		
843	4101 FORMAT (1H,.,T10,10H,****TOTAL WING)		PRTD1465
844	4102 FORMAT (1H,.,T14,10H,****TOTAL,T30,WTAILE)		PRTD1466
845	4103 FORMAT (1H,.,T25,4H,VERT)		PRTD1468
846	4104 FORMAT (1H,.,T25,4H,VERT)		PRTD1500
847	4105 FORMAT (1H,.,T52,30H,STIFFENED SKIN/MULTI-RIB-****)		PRTD1505
848	4106 FORMAT (1H,.,T52,22H,PLATE/MULTI-SPAR-****)		PRTD1510
849	IF (VTID) 4107,411,4108		PRTD1515
850	4107 WRITE (6,4103)		PRTD1520
851	GO TO 4109		PRTD1525

2362 ?

2363

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	*****	CONTENTS	*****
994	C	SAVE DELTA TB, CS MTS	PRD2420
995	N61	DO N610 I=1,3	PRD2430
996		TS(1+17)= -TS(1+296)	PRD2440
997		TS(1+44)= -TS(1+310)	PRD2450
998		N610 CONTINUE	PRD2460
999	C		PRD2470
1000	C	SETUP TB,CS DATA. CLEAR TS(01-520)+440 CELLS	PRD2480
1001		DO N62 I=1,440	PRD2490
1002		TS(1+00)=DC(3)	PRD2500
1003	N62	CONTINUE	PRD2510
1004	C		PRD2520
1005	N63	DO N79 I=1,3	PRD2530
1006		IF (DOM(I)) N79,N79,N84	PRD2540
1007	N84	N=1+100+299	PRD2550
1008		TS(1+516)= CDIN+48)*DLTBX	PRD2560
1009	C		PRD2560
1010	C	FIX WING DATA	PRD2570
1011	C	LE/TE DETAIL	PRD2580
1012	C	LE/TE SUMMARY DATA IN WLT ARRAY--LB/AV	PRD2581
1013	N85	TS(1+56)= WLT(1)*DELLE	PRD2590
1014		TS(1+62)= WLT(2)*DELLE	PRD2600
1015		TS(1+68)= WLT(3)*DELLE	PRD2610
1016		TS(1+74)= WLT(4)*DELLE	PRD2620
1017		TS(1+80)= WLT(5)*DELTE	PRD2630
1018		TS(1+86)= WLT(6)*DELTE	PRD2640
1019		TS(1+92)= WLT(7)*DELTE	PRD2650
1020		TS(1+98)= WLT(8)*DELTE	PRD2660
1021	C		PRD2670
1022	C	BOX DATA	PRD2680
1023	C	SUM	PRD2690
1024	N86	TS(1+83)= TS(1+50)	PRD2700
1025		TS(1+86)= TS(1+53)	PRD2710
1026		TS(1+303)= TS(1+17)	PRD2720
1027		TS(1+306)= TS(1+44)	PRD2730
1028	C		PRD2730
1029	C	T-BOX-FIXED	PRD2740
1030	N87	J=1	PRD2750
1031		K=N	PRD2760
1032		L=ND(1)	PRD2770
1033		GO TO N72	PRD2780
1034	C		PRD2790
1035	C	C-SEC-FIXED	PRD2800
1036	N88	J=1+ND(3)	PRD2810
1037		K=N+50	PRD2820
1038		L=ND(3)	PRD2830
1039		GO TO N72	PRD2840
1040	C		PRD2850
1041	C	DELTA T-BOX-	PRD2860
1042	N89	IF (DTPV(I)) N79,N79,N79	PRD2870
1043	N79	J=1+220	PRD2880
1044		K=N+80	PRD2890
1045		L=ND(2)	PRD2900
1046		GO TO N72	PRD2910
1047	C		PRD2920
1048	C	DELTA C-SEC-	PRD2930
1049	N71	J=1+223	PRD2940
1050		K=N+50	PRD2950
1051		L=ND(4)	PRD2960
1052	C		PRD2970
1053	C	DO MOVE L=1 FIX TB, 2 DELTA TB, 3 C-S, 4 DELTA C-S.	PRD2980
1054	N72	TS(J+101)= CD(K+9)	PRD2990
1055		TS(J+110)= CD(K+10)	PRD3000
1056		TS(J+119)= CD(K+11)	PRD3010
1057		TS(J+127)= CD(K+12)	PRD3020
1058		TS(J+146)= CD(K+13)	PRD3030
1059		TS(J+155)= CD(K+14)	PRD3040
1060	C		PRD3040
1061	C	I R10, FS,RS, ATT	PRD3050
1062		TS(J+173)= CD(K+5)	PRD3060
1063		TS(J+200)= CD(K+6)	PRD3070
1064		TS(J+209)= CD(K+15)	PRD3080

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD P.	CONTENTS		
1005	TS(J+210) = CD(K+16)		PRD3090
1006	TS(J+227) = CD(K+7)		PRD3100
1007	TS(J+236) = CD(K+17)		PRD3110
1008	TS(J+245) = CD(K+18)		PRD3120
1009	TS(J+254) = CD(K+19)		PRD3130
1070	C		PRD3140
1071	C TEST FOR FX, DEL, OP OR C-S		PRD3150
1072	IF (L-ND(2)) 473, 475, 474		PRD3160
1073	C		PRD3169
1074	C O-PNL		PRD3170
1075	473 TS(J+92) = CD(K+2)		PRD3180
1076	TS(J+120) = CD(K+3)		PRD3190
1077	TS(J+182) = CD(K+30)		PRD3200
1078	TS(J+191) = CD(K+31)		PRD3210
1079	C		PRD3220
1080	C DELTA W DETAIL		PRD3230
1081	475 TS(J+200) = CD(K+19)		PRD3240
1082	TS(J+278) = CD(K+20)		PRD3250
1083	TS(J+287) = CD(K+21)		PRD3260
1084	TS(J+272) = CD(K+22)		PRD3270
1085	TS(J+281) = CD(K+23)		PRD3280
1086	TS(J+290) = CD(K+24)		PRD3290
1087	TS(J+260) = TS(J+260) + TS(J+278) + TS(J+287)		PRD3300
1088	TS(J+263) = TS(J+272) + TS(J+281) + TS(J+290)		PRD3310
1089	TS(J+268) = CD(K+25)		PRD3320
1090	TS(J+275) = CD(K+26)		PRD3330
1091	TS(J+284) = CD(K+27)		PRD3340
1092	TS(J+293) = CD(K+28) + CD(K+29)		PRD3350
1093	GO TO 475		PRD3360
1094	C		PRD3370
1095	C C-SEC		PRD3380
1096	474 TS(J+92) = CD(K+3)		PRD3390
1097	TS(J+120) = CD(K+4)		PRD3400
1098	TS(J+191) = CD(K+19)		PRD3410
1099	TS(J+182) = CD(K+3)		PRD3420
1100	C		PRD3430
1101	C EXIT ON L -- SUM RIBS		PRD3440
1102	475 TS(J+184) = TS(J+173) + TS(J+182) + TS(J+191)		PRD3450
1103	GO TO (468, 471, 469, 470), L		PRD3460
1104	C		PRD3470
1105	C ON LOOP		PRD3480
1106	470 CONTINUE		PRD3490
1107	C		PRD3500
1108	C SUM FX (PNL + CS), DELTA PIVOT		PRD3510
1109	460 DO 481 I=1, 20		PRD3520
1110	J=ND(I)		PRD3530
1111	TS(J+72) = TS(J+75) + TS(J+78)		PRD3540
1112	TS(J+73) = TS(J+76) + TS(J+79)		PRD3550
1113	TS(J+74) = TS(J+77) + TS(J+80)		PRD3560
1114	TS(J+292) = TS(J+295) + TS(J+298)		PRD3570
1115	TS(J+293) = TS(J+296) + TS(J+299)		PRD3580
1116	TS(J+294) = TS(J+297) + TS(J+300)		PRD3590
1117	481 CONTINUE		PRD3600
1118	C		PRD3610
1119	C SUBTRACT DELTA MT FROM FIX MT.		PRD3620
1120	462 DO 483 I=1, 216		PRD3630
1121	TS(I+300) = TS(I+80) - TS(I+300)		PRD3640
1122	483 CONTINUE		PRD3650
1123	C		PRD3660
1124	C PRINT PAGE 2 -- FIX DATA, LE, TE, DELTA W. -SET J=1		PRD3670
1125	460 WRITE (6, 4600) NCASE		
1126	4600 FORMAT (10H) CASE 74, 10X, 43H --- NOMINAL TORQUE BOX DETAIL MEIG		PRD3700
1127	10TS ---, 15X, 10H PRD - (P137) ---)		
1128	C		PRD3709
1129	4601 J = ND(1)		PRD3710
1130	C		PRD3719
1131	C PRINT DETAIL		PRD3730
1132	460 WRITE (6, 4600)		PRD3740
1133	4600 FORMAT (10H 24X, 20H --- TOTAL SURFACE ---, 10X, 20H --- OUTER PANEL ---, 10X, 20H --- CENTER SECTION ---, 10H 22X, 20H ND(1) 0H(2) 0H(3) 0H(4) 0H(5) 0H(6) 0H(7) 0H(8) 0H(9) 0H(10) 0H(11) 0H(12) 0H(13) 0H(14) 0H(15) 0H(16) 0H(17) 0H(18) 0H(19) 0H(20) 0H(21) 0H(22) 0H(23) 0H(24) 0H(25) 0H(26) 0H(27) 0H(28) 0H(29) 0H(30) 0H(31) 0H(32) 0H(33) 0H(34) 0H(35) 0H(36) 0H(37) 0H(38) 0H(39) 0H(40) 0H(41) 0H(42) 0H(43) 0H(44) 0H(45) 0H(46) 0H(47) 0H(48) 0H(49) 0H(50) 0H(51) 0H(52) 0H(53) 0H(54) 0H(55) 0H(56) 0H(57) 0H(58) 0H(59) 0H(60) 0H(61) 0H(62) 0H(63) 0H(64) 0H(65) 0H(66) 0H(67) 0H(68) 0H(69) 0H(70) 0H(71) 0H(72) 0H(73) 0H(74) 0H(75) 0H(76) 0H(77) 0H(78) 0H(79) 0H(80) 0H(81) 0H(82) 0H(83) 0H(84) 0H(85) 0H(86) 0H(87) 0H(88) 0H(89) 0H(90) 0H(91) 0H(92) 0H(93) 0H(94) 0H(95) 0H(96) 0H(97) 0H(98) 0H(99) 0H(100) 0H(101) 0H(102) 0H(103) 0H(104) 0H(105) 0H(106) 0H(107) 0H(108) 0H(109) 0H(110) 0H(111) 0H(112) 0H(113) 0H(114) 0H(115) 0H(116) 0H(117) 0H(118) 0H(119) 0H(120) 0H(121) 0H(122) 0H(123) 0H(124) 0H(125) 0H(126) 0H(127) 0H(128) 0H(129) 0H(130) 0H(131) 0H(132) 0H(133) 0H(134) 0H(135) 0H(136) 0H(137) 0H(138) 0H(139) 0H(140) 0H(141) 0H(142) 0H(143) 0H(144) 0H(145) 0H(146) 0H(147) 0H(148) 0H(149) 0H(150) 0H(151) 0H(152) 0H(153) 0H(154) 0H(155) 0H(156) 0H(157) 0H(158) 0H(159) 0H(160) 0H(161) 0H(162) 0H(163) 0H(164) 0H(165) 0H(166) 0H(167) 0H(168) 0H(169) 0H(170) 0H(171) 0H(172) 0H(173) 0H(174) 0H(175) 0H(176) 0H(177) 0H(178) 0H(179) 0H(180) 0H(181) 0H(182) 0H(183) 0H(184) 0H(185) 0H(186) 0H(187) 0H(188) 0H(189) 0H(190) 0H(191) 0H(192) 0H(193) 0H(194) 0H(195) 0H(196) 0H(197) 0H(198) 0H(199) 0H(200) 0H(201) 0H(202) 0H(203) 0H(204) 0H(205) 0H(206) 0H(207) 0H(208) 0H(209) 0H(210) 0H(211) 0H(212) 0H(213) 0H(214) 0H(215) 0H(216) 0H(217) 0H(218) 0H(219) 0H(220) 0H(221) 0H(222) 0H(223) 0H(224) 0H(225) 0H(226) 0H(227) 0H(228) 0H(229) 0H(230) 0H(231) 0H(232) 0H(233) 0H(234) 0H(235) 0H(236) 0H(237) 0H(238) 0H(239) 0H(240) 0H(241) 0H(242) 0H(243) 0H(244) 0H(245) 0H(246) 0H(247) 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0H(498) 0H(499) 0H(500) 0H(501) 0H(502) 0H(503) 0H(504) 0H(505) 0H(506) 0H(507) 0H(508) 0H(509) 0H(510) 0H(511) 0H(512) 0H(513) 0H(514) 0H(515) 0H(516) 0H(517) 0H(518) 0H(519) 0H(520) 0H(521) 0H(522) 0H(523) 0H(524) 0H(525) 0H(526) 0H(527) 0H(528) 0H(529) 0H(530) 0H(531) 0H(532) 0H(533) 0H(534) 0H(535) 0H(536) 0H(537) 0H(538) 0H(539) 0H(540) 0H(541) 0H(542) 0H(543) 0H(544) 0H(545) 0H(546) 0H(547) 0H(548) 0H(549) 0H(550) 0H(551) 0H(552) 0H(553) 0H(554) 0H(555) 0H(556) 0H(557) 0H(558) 0H(559) 0H(560) 0H(561) 0H(562) 0H(563) 0H(564) 0H(565) 0H(566) 0H(567) 0H(568) 0H(569) 0H(570) 0H(571) 0H(572) 0H(573) 0H(574) 0H(575) 0H(576) 0H(577) 0H(578) 0H(579) 0H(580) 0H(581) 0H(582) 0H(583) 0H(584) 0H(585) 0H(586) 0H(587) 0H(588) 0H(589) 0H(590) 0H(591) 0H(592) 0H(593) 0H(594) 0H(595) 0H(596) 0H(597) 0H(598) 0H(599) 0H(600) 0H(601) 0H(602) 0H(603) 0H(604) 0H(605) 0H(606) 0H(607) 0H(608) 0H(609) 0H(610) 0H(611) 0H(612) 0H(613) 0H(614) 0H(615) 0H(616) 0H(617) 0H(618) 0H(619) 0H(620) 0H(621) 0H(622) 0H(623) 0H(624) 0H(625) 0H(626) 0H(627) 0H(628) 0H(629) 0H(630) 0H(631) 0H(632) 0H(633) 0H(634) 0H(635) 0H(636) 0H(637) 0H(638) 0H(639) 0H(640) 0H(641) 0H(642) 0H(643) 0H(644) 0H(645) 0H(646) 0H(647) 0H(648) 0H(649) 0H(650) 0H(651) 0H(652) 0H(653) 0H(654) 0H(655) 0H(656) 0H(657) 0H(658) 0H(659) 0H(660) 0H(661) 0H(662) 0H(663) 0H(664) 0H(665) 0H(666) 0H(667) 0H(668) 0H(669) 0H(670) 0H(671) 0H(672) 0H(673) 0H(674) 0H(675) 0H(676) 0H(677) 0H(678) 0H(679) 0H(680) 0H(681) 0H(682) 0H(683) 0H(684) 0H(685) 0H(686) 0H(687) 0H(688) 0H(689) 0H(690) 0H(691) 0H(692) 0H(693) 0H(694) 0H(695) 0H(696) 0H(697) 0H(698) 0H(699) 0H(700) 0H(701) 0H(702) 0H(703) 0H(704) 0H(705) 0H(706) 0H(707) 0H(708) 0H(709) 0H(710) 0H(711) 0H(712) 0H(713) 0H(714) 0H(715) 0H(716) 0H(717) 0H(718) 0H(719) 0H(720) 0H(721) 0H(722) 0H(723) 0H(724) 0H(725) 0H(726) 0H(727) 0H(728) 0H(729) 0H(730) 0H(731) 0H(732) 0H(733) 0H(734) 0H(735) 0H(736) 0H(737) 0H(738) 0H(739) 0H(740) 0H(741) 0H(742) 0H(743) 0H(744) 0H(745) 0H(746) 0H(747) 0H(748) 0H(749) 0H(750) 0H(751) 0H(752) 0H(753) 0H(754) 0H(755) 0H(756) 0H(757) 0H(758) 0H(759) 0H(760) 0H(761) 0H(762) 0H(763) 0H(764) 0H(765) 0H(766) 0H(767) 0H(768) 0H(769) 0H(770) 0H(771) 0H(772) 0H(773) 0H(774) 0H(775) 0H(776) 0H(777) 0H(778) 0H(779) 0H(780) 0H(781) 0H(782) 0H(783) 0H(784) 0H(785) 0H(786) 0H(787) 0H(788) 0H(789) 0H(790) 0H(791) 0H(792) 0H(793) 0H(794) 0H(795) 0H(796) 0H(797) 0H(798) 0H(799) 0H(800) 0H(801) 0H(802) 0H(803) 0H(804) 0H(805) 0H(806) 0H(807) 0H(808) 0H(809) 0H(810) 0H(811) 0H(812) 0H(813) 0H(814) 0H(815) 0H(816) 0H(817) 0H(818) 0H(819) 0H(820) 0H(821) 0H(822) 0H(823) 0H(824) 0H(825) 0H(826) 0H(827) 0H(828) 0H(829) 0H(830) 0H(831) 0H(832) 0H(833) 0H(834) 0H(835) 0H(836) 0H(837) 0H(838) 0H(839) 0H(840) 0H(841) 0H(842) 0H(843) 0H(844) 0H(845) 0H(846) 0H(847) 0H(848) 0H(849) 0H(850) 0H(851) 0H(852) 0H(853) 0H(854) 0H(855) 0H(856) 0H(857) 0H(858) 0H(859) 0H(860) 0H(861) 0H(862) 0H(863) 0H(864) 0H(865) 0H(866) 0H(867) 0H(868) 0H(869) 0H(870) 0H(871) 0H(872) 0H(873) 0H(874) 0H(875) 0H(876) 0H(877) 0H(878) 0H(879) 0H(880) 0H(881) 0H(882) 0H(883) 0H(884) 0H(885) 0H(886) 0H(887) 0H(888) 0H(889) 0H(890) 0H(891) 0H(892) 0H(893) 0H(894) 0H(895) 0H(896) 0H(897) 0H(898) 0H(899) 0H(900) 0H(901) 0H(902) 0H(903) 0H(904) 0H(905) 0H(906) 0H(907) 0H(908) 0H(909) 0H(910) 0H(911) 0H(912) 0H(913) 0H(914) 0H(915) 0H(916) 0H(917) 0H(918) 0H(919) 0H(920) 0H(921) 0H(922) 0H(923) 0H(924) 0H(925) 0H(926) 0H(927) 0H(928) 0H(929) 0H(930) 0H(931) 0H(932) 0H(933) 0H(934) 0H(935) 0H(936) 0H(937) 0H(938) 0H(939) 0H(940) 0H(941) 0H(942) 0H(943) 0H(944) 0H(945) 0H(946) 0H(947) 0H(948) 0H(949) 0H(950) 0H(951) 0H(952) 0H(953) 0H(954) 0H(955) 0H(956) 0H(957) 0H(958) 0H(959) 0H(960) 0H(961) 0H(962) 0H(963) 0H(964) 0H(965) 0H(966) 0H(967) 0H(968) 0H(969) 0H(970) 0H(971) 0H(972) 0H(973) 0H(974) 0H(975) 0H(976) 0H(977) 0H(978) 0H(979) 0H(980) 0H(981) 0H(982) 0H(983) 0H(984) 0H(985) 0H(986) 0H(987) 0H(988) 0H(989) 0H(990) 0H(991) 0H(992) 0H(993) 0H(994) 0H(995) 0H(996) 0H(997) 0H(998) 0H(999) 0H(1000) 0H(1001) 0H(1002) 0H(1003) 0H(1004) 0H(1005) 0H(1006) 0H(1007) 0H(1008) 0H(1009) 0H(1010) 0H(1011) 0H(1012) 0H(1013) 0H(1014) 0H(1015) 0H(1016) 0H(1017) 0H(1018) 0H(1019) 0H(1020) 0H(1021) 0H(1022) 0H(1023) 0H(1024) 0H(1025) 0H(1026) 0H(1027) 0H(1028) 0H(1029) 0H(1030) 0H(1031) 0H(1032) 0H(1033) 0H(1034) 0H(1035) 0H(1036) 0H(1037) 0H(1038) 0H(1039) 0H(1040) 0H(1041) 0H(1042) 0H(1043) 0H(1044) 0H(1045) 0H(1046) 0H(1047) 0H(1048) 0H(1049) 0H(1050) 0H(1051) 0H(1052) 0H(1053) 0H(1054) 0H(1055) 0H(1056) 0H(1057) 0H(1058) 0H(1059) 0H(1060) 0H(1061) 0H(1062) 0H(1063) 0H(1064) 0H(1065) 0H(1066) 0H(1067) 0H(1068) 0H(1069) 0H(1070) 0H(1071) 0H(1072) 0H(1073) 0H(1074) 0H(1075) 0H(1076) 0H(1077) 0H(1078) 0H(1079) 0H(1080) 0H(1081) 0H(1082) 0H(1083) 0H(1084) 0H(1		

08/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	****	CONTENTS	****
1136	C		PRTO3780
1137	C		PRTO3790
1138	4821 WRITE	(8,4821) (TS(1+80),1+1,81)	PRTO3800
1139	4822 FORMAT (10H)	**TORQUE BOX** ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	*UPPRTO3810
1140	1PER COVER*	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	SKINS ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1141	21,3X,3F9.1,2X,3F9.1,7F10H	STRG.	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1142	31,7F10H	MISC. SK.	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1143	4VER*	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	SKINS ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1144	5F9.1,2X,3F9.1,7F10H	STRG.	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1145	6	MISC. SK.	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1146	C		PRTO3880
1147	4823 WRITE	(8,4823) (TS(1+161),1+1,89)	PRTO3890
1148	4824 FORMAT (10H)	*RIBS* ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	1PRTO3900
1149	INTERM.	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	BULKHEADS ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1150	2,3X,3F9.1,2X,3F9.1,7F10H	RT/C-L	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1151	3,7F10H	*FRONT SPAR*	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1152	4	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	MEB ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1153	50.1,2X,3F9.1,7F10H	*REAR SPAR*	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1154	6	CAPS ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	MEB ,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1155	73F10.1,3X,3F9.1,2X,3F9.1,7F10H	*MISC. ATT.*	,3F10.1,3X,3F9.1,2X,3F9.1,7F10H
1156	8,3F9.1)		PRTO3980
1157	C		PRTO3988
1158	C	***ADD DELTA STORE FIG HTS TO SUMMARY***	PRTO3989
1159	WRITE (8,4825) (TS(1+516),1+1,3), (TS(1+516),1+1,3)		PRTO3990
1160	4825 FORMAT (10H)	*STORE FIG.* ,3F10.1,3X,3F9.1)	PRTO3995
1161	C		PRTO3999
1162	C		PRTO4000
1163	C	TEST FOR LE/TE -J=1 1-PRINT, 2=NO	PRTO4010
1164	C	*TEST FOR WING, HORI, VERT*	PRTO4011
1165	C	*WING-4 LINES, HORI/VERT-1 LINE LE, 2 LINES TE*	PRTO4012
1166	483 IF (J-ND(2)) 4830,4830,484		PRTO4020
1167	4830 WRITE	(8,4831)	PRTO4030
1168	4831 FORMAT (10H)	--- <td>PRTO4040</td>	PRTO4040
1169	1	--- <td>PRTO4041</td>	PRTO4041
1170	C		PRTO4049
1171	WRITE (8,4832) (TS(1+58),1+1,8)		PRTO4050
1172	4832 FORMAT (10H)	*FIXED STR* ,3F10.1,20X,12H*FIXED STR* ,3F9.1)	PRTO4055
1173	IF (VTID) 4833,4837,4836		PRTO4060
1174	C		PRTO4068
1175	C	*HORI--ELEV--LINE 2*	PRTO4069
1176	4833 WRITE (8,4834) (TS(1+78),TS(79),TS(80))		PRTO4070
1177	GO TO 484		PRTO4075
1178	4834 FORMAT (10H)	67X,12H*ELEVATORS* ,3F9.1)	PRTO4080
1179	4835 FORMAT (10H)	67X,12H*RUDDERS* ,3F9.1)	PRTO4085
1180	C		PRTO4088
1181	C	*VERT--RUDDER--LINE 2*	PRTO4089
1182	4836 WRITE (8,4835) (TS(1+78),TS(79),TS(80))		PRTO4090
1183	GO TO 484		PRTO4095
1184	C		PRTO4098
1185	C	*WING--LE DEV 1,2,3, TE FLAPS, SPOILERS, AILERONS*	PRTO4099
1186	4837 WRITE (8,4838) (TS(1+82),1+1,10)		PRTO4100
1187	4838 FORMAT (10H)	*DEV. NO. 1*,3F10.1,20X,12H*E. FLAPS*,3F9.1,6X,12H*DEV. NO. 2*,3F10.1,20X,12H*SPOILERS*,3F9.1,6X,12H*DEV. NO. 3*,3F10.1,20X,12H*AILERONS*,3F9.1)	PRTO4110
1188	1,12H*DEV. NO. 2*,3F10.1,20X,12H*SPOILERS*,3F9.1,6X,12H*DEV. NO. 3*,3F10.1,20X,12H*AILERONS*,3F9.1)		PRTO4111
1189	2 3*,3F10.1,20X,12H*AILERONS*,3F9.1)		PRTO4112
1190	C		PRTO4118
1191	C	TEST FOR DELTA W PRINT, J=1 OR 3	PRTO4120
1192	484 DO 4840 1+1,36		PRTO4130
1193	IF (TS(1+260)) 4841,4840,4841		PRTO4140
1194	4840 CONTINUE		PRTO4150
1195	GO TO 4845		PRTO4160
1196	C	PRINT W	PRTO4170
1197	4841 WRITE	(8,4842)	PRTO4180
1198	4842 FORMAT (10H)	--- <td>PRTO4190</td>	PRTO4190
1199	INERS SUMMARY--OUTER-PANEL---	10H	UPPRTO4200
1200	1PER COVER	LOWER COVER	RIBS, SPARS,PRTO4210
1201	3, ATT.)		PRTO4220
1202	C		PRTO4230
1203	4843 WRITE	(8,4844) (TS(1+260),1+1,36)	PRTO4240
1204	4844 FORMAT (10H)	COV-U-/L-/R.,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	SK.-UPPRTO4250
1205	1,7F10H,3F9.1,2X,3F9.1,7F10H	STR-U-/L-/R.S.,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	PRTO4260
1206	2,3X,3F9.1,2X,3F9.1,7F10H	M.SK.-U-/L-/R.A.,3F10.1,3X,3F9.1,2X,3F9.1,7F10H	PRTO4270

2367

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE PUZZLE -
CARD NO	****	CONTENTS	****
1270		DIMENSION T(6220),D(2060),CD(2000),ND(100),DC(100),	TBFM0110
1270		1(TG(300),TNG(400),VC(160),TT(24),TST(50),TGR(100),	TBFM0111
1280		ACC(1300),TCS(250),TGA(135),	TBFM0112
1281		9SIND(6),COSD(6)	TBFM0119
1282	C		TBFM0120
1283		EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),	TBFM0130
1284		1(DC(1),D(1401)),(TG(1),T(1001)),(TNG(1),T(1301)),(TST(1),T(1701)),	TBFM0131
1285		2(TGR(1),T(1751)),(VC(1),T(351)),(TT(1),T(411)),(TGA(1),T(1851)),	TBFM0132
1286		3(CC(1),CD(1851)),(TCS(1),CD(1401)),	TBFM0133
1287		4(SIND(1),T(1401)),(COSD(1),T(1451)),	TBFM0134
1288		8(I,ND(26)),(N,ND(27)),(L,ND(28)),(K,ND(29)),(NS,ND(30)),	TBFM0138
1289		9(NA,ND(31)),(KD,ND(32))	TBFM0139
1290	C		TBFM0140
1291	C	*CLEAR INTEGRATION SCRATCH TGR*	TBFM0150
1292		100 DO 101 I=1,100	TBFM0160
1293		TGR(I) = DC(3)	TBFM0170
1294		101 CONTINUE	TBFM0171
1295	C		TBFM0172
1296	C	**10 PANEL INTEGRATION. ALL AT CC1*	TBFM0173
1297		DO 150 N=1,10	TBFM0174
1298		TGR(35) = CC1(N+1) - CC1(N)	TBFM0175
1299		TGR(1) = TGR(35)/CC1(99)	TBFM0176
1300		IF (TGR(1) - CC1(100)) 102,101,103	TBFM0177
1301		102 TGR(36) = INT(TGR(35)/CC1(100))	TBFM0178
1302		IF (TGR(36) - D(4)) 1020,1021,1021	TBFM0179
1303		1020 TGR(36) = D(4)	TBFM0180
1304		1021 TGR(1) = TGR(35)/TGR(36)	TBFM0185
1305		103 TGR(35) = TGR(35)/TGR(1)	TBFM0186
1306		TGR(2) = CC1(N) - TGR(1)	TBFM0190
1307		TGR(3) = CC1(N)	TBFM0200
1308		TGR(4) = CC1(N) - TGR(1)/D(2)	TBFM0210
1309		TGR(12) = (CC1(N+23) - CC1(N+22))/TGR(36)	TBFM0220
1310		TGR(6) = CC1(N+22) - TGR(12)/D(2)	TBFM0230
1311		TGR(13) = (CC1(N+12) - CC1(N+11))/TGR(36)	TBFM0240
1312		TGR(7) = CC1(N+11) - TGR(13)/D(2)	TBFM0250
1313		TGR(5) = TGR(7) - TGR(6)	TBFM0260
1314		TGR(16) = TGR(7) - TGR(6)/D(2)	TBFM0270
1315	C		TBFM0279
1316	C	**AERO COORD DATA**	TBFM0280
1317		TGR(14) = (CC1(N+34) - CC1(N+33))/TGR(36)	TBFM0290
1318		TGR(15) = (CC1(N+45) - CC1(N+44))/TGR(36)	TBFM0300
1319		TGR(18) = (CC1(N+56) - CC1(N+55))/TGR(36)	TBFM0310
1320		TGR(17) = (CC1(N+67) - CC1(N+66))/TGR(36)	TBFM0320
1321		TGR(8) = CC1(N+33) - TGR(14)/D(2)	TBFM0330
1322		TGR(9) = CC1(N+44) - TGR(15)/D(2)	TBFM0340
1323		TGR(10) = CC1(N+55) - TGR(16)/D(2)	TBFM0350
1324		TGR(11) = CC1(N+66) - TGR(17)/D(2)	TBFM0360
1325		TGR(45) = TGR(11)/TGR(11)/D(12)	TBFM0370
1326	C		TBFM0371
1327	C	*DEPTH	TBFM0371
1328		TGR(30) = (CC1(N+127) - CC1(N+126))/TGR(36)	TBFM0372
1329		TGR(29) = CC1(N+126) - TGR(30)/D(2)	TBFM0373
1330	C		TBFM0380
1331	C	*DELTA Y(LAPDA) STRIP LOOP*	TBFM0390
1332		110 DO 111 I=1,3	TBFM0400
1333		TGR(101) = TGR(101) + TGR(1)	TBFM0410
1334		111 CONTINUE	TBFM0420
1335		DO 112 I=1,8	TBFM0430
1336		TGR(105) = TGR(105) + TGR(101)	TBFM0440
1337		112 CONTINUE	TBFM0450
1338		TGR(5) = TGR(7) - TGR(6)	TBFM0460
1339		TGR(19) = TGR(7) - TGR(6)/D(2)	TBFM0470
1340		TGR(20) = TGR(20) + TGR(30)	TBFM0471
1341		TGR(31) = TGR(20)+TGR(20)+CC1(138)	TBFM0472
1342	C		TBFM0480
1343	C	*STRIP HEIGHT=Z(YCP)*	TBFM0490
1344		TGR(18) = TGR(31)+CC1(N+77) + CC1(N+87)	TBFM0500
1345		TGR(21) = TGR(18)+TGR(1)	TBFM0510
1346		TGR(23) = TGR(21)+TGR(19)	TBFM0520
1347	C		TBFM0529
1348	C	*HEIGHT STRIP TEST. TEST ID FOR BOX OR FUEL	TBFM0530

06/10/74	INPUT LISTING	AUTOFLOW CHART LIST - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1349	C	*B=BOX WT,CG ONLY. 2=FUEL WT,CG ONLY. 1,3=ALL*	TBFM0540
1350		IF (CC(100) - D(11)) 113,113,130	TBFM0550
1351	C		TBFM0559
1352	C	*BOX DATA. REF STATION INDEX=N*	TBFM0560
1353		113 TGR(24) = TGR(4) - TG(4)	TBFM0570
1354		TGR(22) = TGR(21)*TGR(24)	TBFM0580
1355		TCS(IN+1) = TCS(IN+1) + TGR(21)	TBFM0590
1356		TCS(IN+13) = TCS(IN+13) + TGR(22)	TBFM0600
1357		TCS(IN+25) = TCS(IN+25) + TGR(23)	TBFM0610
1358		IF (CC(120)) 124,124,114	TBFM0620
1359	C		TBFM0629
1360	C	*DO STRUCT INT. AND AERO. FOR BOX DATA*	TBFM0630
1361		114 I = ND(1)	TBFM0640
1362		IF (TG(IN+45) - TGR(4)) 115,115,116	TBFM0645
1363		115 I = ND(2)	TBFM0650
1364		116 NS = N + I - ND(1)	TBFM0660
1365	C		TBFM0669
1366		1160 TGR(32) = TGR(21)*TGR(31)	TBFM0670
1367		TGR(27) = TGR(21)*TGR(6)/D(12)*TGR(6) + TGR(32)	TBFM0680
1368		TGR(20) = TGR(21)*TGR(45) + TGR(32)	TBFM0690
1369		TGR(25) = TGR(4) - TG(NS)	TBFM0700
1370		TGR(26) = TGR(25)*TGR(21)	TBFM0710
1371		TCS(NS+36) = TCS(NS+36) + TGR(21)	TBFM0720
1372		TCS(NS+47) = TCS(NS+47) + TGR(26)	TBFM0730
1373		TCS(NS+58) = TCS(NS+58) + TGR(23)	TBFM0740
1374		TCS(NS+69) = TCS(NS+69) + TGR(23)*TGR(19) + TGR(27)	TBFM0750
1375		TCS(NS+80) = TCS(NS+80) + TGR(26)*TGR(25) + TGR(20)	TBFM0760
1376	C		TBFM0769
1377	C	*AERO INTEGRATION. SETUP FOR GRID ALONG STRIP.*	TBFM0770
1378	C	*SET ND=1 FOR RETURN TO LOOP*	TBFM0780
1379		ND = ND(1)	TBFM0790
1380		1169 TGR(40) = TGR(6)/CC(110)	TBFM0800
1381		IF (TGR(40) - CC(102)) 117,117,118	TBFM0810
1382		117 TGR(38) = INT(TGR(6)/CC(110))	TBFM0820
1383		IF (TGR(39) - D(4)) 1170,117,1171	TBFM0825
1384		1170 TGR(39) = D(4)	TBFM0826
1385		1171 TGR(40) = TGR(6)/TGR(39)	TBFM0830
1386		118 TGR(39) = TGR(6)/TGR(40)	TBFM0840
1387		TGR(46) = TGR(40)*TGR(40)/D(12)	TBFM0850
1388		TGR(51) = TGR(21)/TGR(39)	TBFM0860
1389		TGR(56) = TGR(51)*TGR(31)	TBFM0865
1390		TGR(47) = TGR(51)*TGR(46) + TGR(56)	TBFM0870
1391		TGR(48) = TGR(51)*TGR(45) + TGR(56)	TBFM0880
1392		TGR(49) = TGR(47)*COS(13) + TGR(48)*SIN(13)	TBFM0890
1393		TGR(50) = TGR(48)*COS(13) + TGR(47)*SIN(13)	TBFM0900
1394		TGR(81) = TGR(51)*TGR(45) + TGR(46)	TBFM0905
1395		TGR(41) = (TGR(10) - TGR(81))/TGR(39)	TBFM0910
1396		TGR(42) = (TGR(11) - TGR(9))/TGR(39)	TBFM0920
1397		TGR(43) = TGR(8) - TGR(41)/D(2)	TBFM0930
1398		TGR(44) = TGR(9) - TGR(42)/D(2)	TBFM0940
1399	C		TBFM0949
1400	C	*GRID LOOP*	TBFM0950
1401		119 TGR(43) = TGR(43) + TGR(41)	TBFM0960
1402		TGR(44) = TGR(44) + TGR(42)	TBFM0970
1403	C		TBFM0979
1404	C	*SEARCH FOR AERO CG INDEX*	TBFM0980
1405		NA = ND(1)	TBFM0990
1406		120 IF (TG(NA+1) - TGR(43)) 121,122,122	TBFM1000
1407		121 NA = NA + ND(1)	TBFM1010
1408		IF (ND(10) - NA) 122,122,120	TBFM1020
1409		122 TGR(54) = TGR(43) - TG(NA+22)	TBFM1030
1410		TGR(55) = TG(NA+32) - TGR(44)	TBFM1040
1411		TGR(52) = TGR(54)*TGR(51)	TBFM1050
1412		TGR(53) = TGR(55)*TGR(51)	TBFM1060
1413		TCS(NA+81) = TCS(NA+81) + TGR(51)	TBFM1070
1414		TCS(NA+102) = TCS(NA+102) + TGR(52)	TBFM1080
1415		TCS(NA+113) = TCS(NA+113) + TGR(53)	TBFM1090
1416		TCS(NA+124) = TCS(NA+124) + TGR(53)*TGR(55) + TGR(49)	TBFM1100
1417		TCS(NA+135) = TCS(NA+135) + TGR(52)*TGR(54) + TGR(50)	TBFM1110
1418		TCS(NA+200) = TCS(NA+200) + TGR(53)*TGR(55) + TGR(52)*TGR(54) + TGR(51)	TBFM1115
1419		IR(81)	TBFM1116

CARD NO	****	CONTENT*	****
1420	C		TBFM119
1421	C	*TEST FOR END OF STRIP*	TBFM1120
1422		IF (TOR(11) - TOR(14)) - TOR(12) 123,123,119	TBFM1130
1423	C		TBFM1139
1424	C	**TEST FOR RETURN**	TBFM1140
1425		123 IF (KD - MD(2)) 124,145,150	TBFM1150
1426	C		TBFM1159
1427	C	*STRIP LOOP TEST*	TBFM1160
1428		124 IF (CC(11) - TOR(14) - TOR(11)) 125,110,110	TBFM1170
1429	C		TBFM1179
1430	C	*END OF PANEL. TEST FOR CONC. MTS. INBD/OBD. T.BOX ONLY*	TBFM1180
1431	C	*KD= 2 OR 3 FOR RETURN FROM GRID INTEG. 10=1 OR 3	TBFM1190
1432		125 IF (CC(198) - D(1)) 140,140,150	TBFM1200
1433	C		TBFM1210
1434	C	*FUEL DATA*	TBFM1220
1435	C	*SEARCH FOR HEIGHT STATION*	TBFM1230
1436	C		TBFM1339
1437		130 NS = MD(1)	TBFM1240
1438		131 IF (TG(NS+1) - TOR(14)) 132,133,133	TBFM1250
1439		132 NS = NS + MD(1)	TBFM1260
1440		IF (MD(10) - NS) 133,133,131	TBFM1270
1441		133 TOR(24) = TOR(14) - TG(NS)	TBFM1290
1442		TOR(22) = TOR(21) + TOR(24)	TBFM1300
1443		TCS(NS+1) = TCS(NS+1) + TOR(21)	TBFM1310
1444		TCS(NS+13) = TCS(NS+13) + TOR(22)	TBFM1320
1445		TCS(NS+25) = TCS(NS+25) + TOR(23)	TBFM1330
1446		IF (D(2) - CC(198)) 134,124,124	TBFM1339
1447	C		TBFM1340
1448	C	*FIND PROPER FLUTTER STRIP*	TBFM1350
1449		134 IF (TG(NS+45) - TOR(14)) 137,137,1160	TBFM1360
1450		135 NS = NS + MD(1)	TBFM1370
1451		GO TO 1180	TBFM1380
1452	C		TBFM1390
1453	C	*CONC. CHORD HEIGHTS. DO HEIGHT INTEG. AND TEST FOR V*	TBFM1400
1454	C	*ROOT AND TIP=1.0*MT. STA 2-10*5 10,5080*	TBFM1410
1455		140 IF (CC(11) + MD(1)) 145,145,141	TBFM1420
1456		141 TOR(21) = CC(11) + MD(1)	TBFM1430
1457		IF (MD(11) - M) 142,143,143	TBFM1440
1458		142 TOR(21) = TOR(21)/D(2)	TBFM1450
1459		143 TCS(NS+1) = TCS(NS+1) + TOR(21)	TBFM1460
1460		TOR(20) = CC(11) - CC(11)/D(2) + 1	TBFM1470
1461		TOR(23) = TOR(21) + TOR(20)	TBFM1480
1462		TCS(NS+25) = TCS(NS+25) + TOR(23)	TBFM1490
1463		IF (D(1) - CC(198)) 144,144,145	TBFM1499
1464	C		TBFM1500
1465	C	*DO FLUTTER*	TBFM1510
1466		144 TCS(NS+36) = TCS(NS+36) + TOR(21)	TBFM1520
1467		TCS(NS+58) = TCS(NS+58) + TOR(23)	TBFM1525
1468		TOR(31) = CC(1130) + CC(1126) + CC(1126)	TBFM1530
1469		TCS(NS+80) = TCS(NS+80) + TOR(23) + TOR(20) + TOR(21) + CC(1122)/D(12) + TOR(11)	TBFM1540
1470		145 TCS(NS+22) = TOR(21) + TOR(31)	TBFM1550
1471		TCS(NS+80) = TCS(NS+80) + TOR(21) + TOR(21)/D(12) + TOR(21) + TOR(11)	TBFM1560
1472	C		TBFM1570
1473	C	*SETUP GRID DATA AND RETURN KD=2*	TBFM1580
1474		KD = MD(2)	TBFM1590
1475		TOR(45) = DC(3)	TBFM1600
1476		TOR(6) = CC(11) + MD(2)	TBFM1610
1477		TOR(8) = CC(11) + MD(3)	TBFM1620
1478		TOR(9) = CC(11) + MD(4)	TBFM1630
1479		TOR(10) = CC(11) + MD(5)	TBFM1640
1480		TOR(11) = CC(11) + MD(6)	TBFM1650
1481		GO TO 1180	TBFM1660
1482	C		TBFM1670
1483	C	*CONC. MT. OBD STATION*	TBFM1680
1484		145 IF (CC(11) + MD(3)) 150,150,146	TBFM1690
1485		146 TOR(21) = CC(11) + MD(3)/D(2)	TBFM1700
1486		IF (M - MD(8)) 147,147,148	TBFM1710
1487		147 TOR(21) = TOR(21)/D(2)	TBFM1720
1488		148 TCS(NS+1) = TCS(NS+1) + TOR(21)	TBFM1730
1489		TOR(20) = CC(11) + MD(2) - CC(11) + MD(2)/D(2)	
1490		TOR(23) = TOR(21) + TOR(20)	

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
1491	TCSIN+25) + TCSIN+25) + TOR(23)		TBFH1740
1492	IF (D(1) - CC(100)) 149,145,150		TBFH1750
1493	C		TBFH1759
1494	C *DO FLUTTER*		TBFH1760
1495	149 TCSIN+37) + TCSIN+37) + TOR(21)		TBFH1770
1496	TCSIN+59) + TCSIN+59) + TOR(23)		TBFH1780
1497	TOR(31) + CC(1130) + CC(1127) + CC(1127)		TBFH1785
1498	TCSIN+70) + TCSIN+70) + TOR(23) + TOR(20) + TOR(21) + CC(1123) + D(12) + TBFH1790		
1499	CC(1123) + TOR(31) + TOR(21)		TBFH1800
1500	TCSIN+81) + TCSIN+81) + TOR(21) + TOR(21) + D(12) + TOR(21) + TOR(31)		TBFH1805
1501	C		TBFH1809
1502	C *ORIG INTEG. DATA, OBO CHORD*		TBFH1810
1503	ND = ND(7)		TBFH1820
1504	TOR(45) + CC(13)		TBFH1830
1505	TOR(6) + CC(11+23)		TBFH1840
1506	TOR(8) + CC(11+34)		TBFH1850
1507	TOR(9) + CC(11+45)		TBFH1860
1508	TOR(10) + CC(11+56)		TBFH1870
1509	TOR(11) + CC(11+67)		TBFH1880
1510	GO TO 1169		TBFH1890
1511	C		TBFH1899
1512	C **LOOP NEXT PANELIN***		TBFH1900
1513	150 CONTINUE		TBFH1910
1514	C		TBFH1920
1515	C		TBFH1930
1516	C *DELTA WT DUE TO COL**		TBFH1940
1517	IF (CC(100) - D(1)) 151,151,170		TBFH1950
1518	151 DO 104 I=1,7		TBFH1960
1519	IF (CC(11+105)) 152,104,152		TBFH1970
1520	152 N = ND(11)		TBFH1980
1521	153 IF (CC(11+209) - TO(N)) 154,155,155		TBFH1990
1522	154 N = N - ND(11)		TBFH2000
1523	IF (N - ND(11)) 155,155,153		TBFH2010
1524	155 TCSIN+13) + TCSIN+13) + CC(11+105)		TBFH2020
1525	TCSIN+13) + TCSIN+13) + CC(11+105) + CC(11+200) - TO(N)		TBFH2030
1526	TCSIN+25) + TCSIN+25) + CC(11+105) + CC(11+217)		TBFH2035
1527	156 IF (D(1) - CC(100)) 157,157,104		TBFH2040
1528	C		TBFH2050
1529	C *FLUTTER**		TBFH2060
1530	157 NS = N		TBFH2070
1531	IF (TO(N+5) - CC(11+209)) 158,160,160		TBFH2080
1532	158 IF (N - ND(11)) 159,160,160		TBFH2090
1533	159 NS = N + ND(11)		TBFH2100
1534	160 TOR(57) + CC(11+209) - TO(NS)		TBFH2110
1535	TOR(58) + TOR(57) + CC(11+105)		TBFH2120
1536	TOR(59) + CC(11+105) + CC(11+217)		TBFH2125
1537	TCS(NS+36) + TCS(NS+36) + CC(11+105)		TBFH2130
1538	TCS(NS+47) + TCS(NS+47) + TOR(58)		TBFH2140
1539	TCSIN+58) + TCSIN+58) + TOR(59)		TBFH2145
1540	TCS(NS+69) + TCS(NS+69) + CC(11+225) + TOR(58) + CC(11+217)		TBFH2150
1541	TCS(NS+80) + TCS(NS+80) + TOR(58) + TOR(57) + CC(11+225)		TBFH2160
1542	C		TBFH2170
1543	C *FLEX LOADS**		TBFH2180
1544	N = ND(10)		TBFH2190
1545	161 IF (CC(11+193) - TOA(N)) 162,163,163		TBFH2200
1546	162 N = N - ND(11)		TBFH2210
1547	IF (N - ND(11)) 163,161,161		TBFH2220
1548	163 TOR(57) + CC(11+193) - TOA(N+22)		TBFH2230
1549	TOR(58) + CC(11+105) + TOR(57)		TBFH2240
1550	TOR(60) + TOA(N+32) - CC(11+201)		TBFH2245
1551	TOR(58) + TOR(60) + CC(11+105)		TBFH2246
1552	TCSIN+81) + TCSIN+81) + CC(11+105)		TBFH2250
1553	TCSIN+102) + TCSIN+102) + TOR(58)		TBFH2260
1554	TCSIN+113) + TCSIN+113) + TOR(58)		TBFH2265
1555	TCSIN+124) + TCSIN+124) + CC(11+225) + TOR(60) + TOR(58)		TBFH2270
1556	TCSIN+135) + TCSIN+135) + TOR(58) + TOR(57) + CC(11+225)		TBFH2280
1557	TCSIN+200) + TCSIN+200) + CC(11+105) + D(12) + TOR(58) + TOR(57) + TOR(58) + TOR(57)		TBFH2285
1558	160) + TOR(58)		TBFH2286
1559	164 CONTINUE		TBFH2290
1560	C		TBFH2291
1561	C ***TEST FOR HEIGHT SCALING***		TBFH2292

CARD NO	CONTENTS	
1562	C **TCS(181)=W(10). IF=0, SET=SUM(TCS(1-12)) FOR SCALING**	TBFM2293
1563	C *TEST FOR 0.0 WT FOR FLUTTER/FLEX LOADS TOTAL HEIGHTS*	TBFM2294
1564	170 DO 171 I=1,11	TBFM2295
1565	TCS(182) = TCS(182) + TCS(1+I)	TBFM2296
1566	TCS(183) = TCS(183) + TCS(1+36)	TBFM2297
1567	TCS(184) = TCS(184) + TCS(1+101)	TBFM2298
1568	171 CONTINUE	TBFM2299
1569	IF (TCS(181)) 172,172,1720	TBFM2299
1570	172 TCS(181) = TCS(182)	TBFM2299
1571	1720 TCS(185) = D(1)	TBFM2300
1572	IF (TCS(182)) 1722,1722,1721	TBFM2300
1573	1721 TCS(185) = TCS(181)/TCS(182)	TBFM2300
1574	1722 TCS(186) = D(1)	TBFM2301
1575	IF (TCS(183)) 1724,1724,1723	TBFM2301
1576	1723 TCS(186) = TCS(181)/TCS(183)	TBFM2301
1577	1724 TCS(187) = D(1)	TBFM2302
1578	IF (TCS(184)) 1726,1726,1725	TBFM2303
1579	1725 TCS(187) = TCS(181)/TCS(184)	TBFM2303
1580	C	TBFM2304
1581	1726 DO 174 I=1,55	TBFM2305
1582	TCS(1+36) = TCS(1+36)+TCS(186)	TBFM2306
1583	TCS(1+91) = TCS(1+91)+TCS(187)	TBFM2307
1584	IF (I - 36) 173,173,174	TBFM2308
1585	173 TCS(1) = TCS(1)+TCS(185)	TBFM2309
1586	174 CONTINUE	TBFM2310
1587	DO 1740 I=1,10	TBFM2311
1588	TCS(1+200) = TCS(1+200)+TCS(187)	TBFM2312
1589	1740 CONTINUE	TBFM2313
1590	C	TBFM2318
1591	C *CALC V,M,T*	TBFM2319
1592	175 TCS(157) = TCS(12)	TBFM2320
1593	TCS(168) = TCS(24)	TBFM2330
1594	TCS(179) = TCS(36)	TBFM2340
1595	C	TBFM2350
1596	DO 176 N=1,10	TBFM2360
1597	I = ND(1) - N	TBFM2370
1598	TCS(1+146) = TCS(1+147) + TCS(1+1)	TBFM2380
1599	TCS(1+157) = TCS(1+158) + TCS(1+13) + TCS(1+147)*(TG(1+1)-TG(1+1))	TBFM2390
1600	TCS(1+168) = TCS(1+169) + TCS(1+25)	TBFM2400
1601	176 CONTINUE	TBFM2410
1602	C	TBFM2420
1603	TCS(180) = TCS(147)	TBFM2430
1604	C	TBFM2440
1605	C	TBFM2450
1606	C ***BK PRINT TEST IP 34***	TBFM2460
1607	180 IF (IP(34)) 181,181,189	TBFM2470
1608	181 WRITE (6,182)	TBFM2480
1609	C	TBFM2490
1610	182 FORMAT (77H) ***TBFM1 SUBR. FUEL/BOX STRUCT. INTEGRATION DATA ATBFM2500	
1611	1-TCS AND CCI ARRAYS***,13X,20H** TBFM1 - (P(34) **/BHO TCS)	
1612	C	TBFM2520
1613	185 FORMAT (14H 14,5E10.0)	TBFM2530
1614	C	TBFM2540
1615	186 FORMAT (8H0 CCI)	TBFM2550
1616	C	TBFM2560
1617	DO 187 N=1,250,5	TBFM2570
1618	K = N + ND(4)	TBFM2580
1619	WRITE (6,185)N,(TCS(1),I=N,K,1)	TBFM2590
1620	187 CONTINUE	TBFM2600
1621	C	TBFM2610
1622	WRITE (6,186)	TBFM2620
1623	DO 188 N=1,300,5	TBFM2630
1624	K = N + ND(4)	TBFM2640
1625	WRITE (6,185)N,(CCI(1),I=N,K,1)	TBFM2650
1626	188 CONTINUE	TBFM2660
1627	C	TBFM2670
1628	C	TBFM2680
1629	C ***EXIT***	TBFM2690
1630	199 RETURN	TBFM2698
1631	END	TBFM2699
1632	C*****	

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1633	C		
1634	C	*****SUBROUTINE WFLD*****	
1635	C	***MASS/DESIGN DATA CALC/OUTPUT FOR FLEX LOADS PROGRAM***	
1636	C		
1637	C	*****	
1638	C		
1639	C	SUBROUTINE WFLD	WFLD0010
1640	C		MODT0020
1641	C	**OUTPUT FLEX LOADS MASS PROPERTIES DATA**	WFLD0030
1642	C		MODT0040
1643	C		MODT0050
1644	C	COMMON /I/PRINT/1P(80)	
1645	C	COMMON T	MODT0060
1646	C		MODT0070
1647	C	DIMENSION T(6220),D(2060),CD(2000),ND(100),DC(100),	MODT0080
1648	C	1YC(150),YTC(80),TG(300),TMD(400),TGA(135),CC(1300),TCS(250),	MODT0090
1649	C	2CLE(1150),CTE(1150),CFL2(1150),CFL1(1150),CHI(1150),	MODT0100
1650	C	3CCOL(1150),TST(50),TOR(100),CTB(1150),	MODT0110
1651	C	4TAND(8),CCLD(8),SIND(8),COSD(8),	MODT0120
1652	C	5DFXF(2),DFXC(2),	MODT0130
1653	C	6BC(170),	MODT0140
1654	C	9TT(24)	MODT0150
1655	C		MODT0160
1656	C	EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),	MODT0170
1657	C	1(DC(1),D(1401)),(TT(1),T(4111)),(YC(1),T(2011)),(YTC(1),T(3511)),	MODT0180
1658	C	2(B1S02,T(1161)),	MODT0190
1659	C	3(TG(1),T(1001)),(TMD(1),T(1301)),(TGA(1),T(1051)),	MODT0200
1660	C	4(TST(1),T(1701)),(TOR(1),T(1751)),(CTB(1),CD(3511)),	MODT0210
1661	C	5(CLE(1),CD(851)),(CTE(1),CD(801)),(CFL1(1),CD(851)),	MODT0220
1662	C	6(CFL2(1),CD(1101)),(CHI(1),CD(1251)),(CCOL(1),CD(501)),	MODT0230
1663	C	7(CCLD(1),CD(1051)),(TCS(1),CD(1401)),(BC(1),CD(1401)),	MODT0240
1664	C	8(N,ND(301)),(1,ND(291)),(K,ND(311)),(L,ND(281)),(NCASE,ND(601))	MODT0250
1665	C		MODT0260
1666	C	EQUIVALENCE (TAND(1),T(1221)),(CCLD(1),T(1311)),(SIND(1),T(1401)),	MODT0270
1667	C	1(COSD(1),T(1401)),	MODT0280
1668	C	2(W1,D(2901)),(W2,D(2911)),	MODT0290
1669	C	3(DFXL,D(2921)),(DFXC,D(2931)),	MODT0300
1670	C	4(DINTP,D(2801)),	MODT0310
1671	C	9(DFXF(1),D(2721)),(DFXC(1),D(2741))	MODT0320
1672	C		MODT0330
1673	C		MODT0340
1674	C	***SETUP BC ARRAY DATA(1-170). 169,170 NOT RECD***	MODT0350
1675	C	*170=0.0 FOR X-LAST CARD, DECRD READ*	MODT0360
1676	C	*RCD 22 USE LOC 1-160*	MODT0370
1677	C	150 CALL READMS (1,BC(1),168,22)	MODT0380
1678	C	BC(169) = DC(3)	MODT0390
1679	C	BC(170) = DC(3)	MODT0400
1680	C		MODT0410
1681	C	***PUNCH BC ARRAY***	MODT0420
1682	C	*SEC COL 73-2 FOR SHEET 11, *COL 74-78=CASE NO.*	MODT0430
1683	C	*COL 77=C FOR BC ARRAY *	MODT0440
1684	C	*COL 78-80=BC ARRAY LOC OF FIRST FIELD DATA*	MODT0450
1685	C	*CARD NO 1-BC(1-4)*	MODT0460
1686	C	**PUNCH ID = DINTP D=NG 1=PUNCH DATA**	MODT0470
1687	C		MODT0480
1688	C	N = ND(1)	MODT0490
1689	C	K = ND(2)	MODT0500
1690	C		MODT0510
1691	C	WRITE (6,1500)NCASE	MODT0520
1692	C	1500 FORMAT (12H1 CASE NO.13,95H ***FLEXIBLE LOADS GENERAL DATA,MODT0530	MODT0540
1693	C	1 BC ARRAY DATA***,2BX,11H** WFLD **/)	MODT0550
1694	C		MODT0560
1695	C	WRITE (6,1511)N,(BC(1),1-1,4),K,NCASE,N	MODT0570
1696	C	IF(DINTP)1542,1542,1501	MODT0580
1697	C	1501 PUNCH 152,N,(BC(1),1-1,4),K,NCASE,N	MODT0590
1698	C	151 FORMAT (1X,13,4E16.8,10X,11,13,1MC,13)	MODT0600
1699	C	152 FORMAT (1X,13,4E12.5,12X,11,13,1MC,13)	MODT0610
1700	C	153 FORMAT (1X,13,5E16.8,2X,11,13,1MC,13)	MODT0620
1701	C	154 FORMAT (1X,13,5E12.5,11,13,1MC,13)	MODT0630
1702	C	1540 FORMAT (2H -,1X,13,E16.8,86X,11,13,1MC,13)	MODT0640
1703	C	1541 FORMAT (1H-,8X,13,E12.5,48X,11,13,1MC,13)	MODT0650

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1704	C		MODT0500
1705	1942 DO 195 N=5,105.5		MODT0510
1706	L = N + MD141		MODT0500
1707	WRITE (6,1933)N,1BC(1),1+N,L,1,K,NCASE,N		MODT0500
1708	IF(DINTP)195,195,1943		
1709	1943 PUNCH 194,N,1BC(1),1+N,L,1,K,NCASE,N		MODT0600
1710	195 CONTINUE		MODT0610
1711	C		MODT0620
1712	C	**PUNCH X-LAST CARD FOR BC ARRAY. LOC(170)=0.0**	MODT0630
1713	N = 170		MODT0640
1714	WRITE (6,1940)N,DC(3),K,NCASE,N		MODT0650
1715	IF(DINTP)120,120,196		
1716	196 PUNCH 191,N,DC(3),K,NCASE,N		MODT0660
1717	C		MODT0669
1718	C	**SETUP OUTPUT DATA FOR FLEXIBLE LOADS ANALYSIS**	MODT0670
1719	120 DO 121 I=1,100		MODT0680
1720	TOR(1) = DC(3)		MODT0690
1721	TCS(1) = DC(3)		MODT0700
1722	TCS(1+100) = DC(3)		MODT0705
1723	121 CONTINUE		MODT0710
1724	C		MODT0720
1725	TCS(1) = W41		MODT0730
1726	TCS(2) = W42		MODT0740
1727	TCS(3) = ATAN(TAND(3))/D(10)		MODT0750
1728	TCS(4) = CCLD(3)		MODT0760
1729	TCS(47) = TG(1)		MODT0770
1730	TCS(87) = CC(110)		MODT0780
1731	TCS(87) = CC(117)		MODT0790
1732	C		MODT0798
1733	C	**SCALE FACTORS FOR DESIGN E AND G**	MODT0809
1734	TCS(88) = D(1)		MODT0800
1735	TCS(88) = D(1)		MODT0801
1736	IF (DOFL) 1212,1212,1210		MODT0802
1737	1210 TCS(88) = DOFL		MODT0803
1738	IF (D(10) - DOFL) 1211,1212,1212		MODT0804
1739	1211 TCS(88) = DOFL/CC(110)		MODT0805
1740	1212 IF (DOFL) 1219,1219,1213		MODT0806
1741	1213 TCS(88) = DOFL		MODT0807
1742	IF (D(10) - DOFL) 1214,1219,1219		MODT0808
1743	1214 TCS(88) = DOFL/CC(110)		MODT0810
1744	C		MODT0818
1745	C	**MOVE YEA STATION, EI, GJ(2-11) AND LOAD POINTS 1-10**	MODT0819
1746	1219 TT(2) = DC(3)		MODT0820
1747	DO 122 I=1,10		MODT0830
1748	TCS(1+40) = TG(1+1)		MODT0840
1749	TCS(1+80) = CC(11+10)*TCS(88)		MODT0850
1750	TCS(1+80) = CC(11+17)*TCS(88)		MODT0860
1751	TT(1) = TGA(1+22)		MODT0870
1752	IF(1-19501,9501,9505		
1753	9501 IF(1P(35)19502,9502,9505		
1754	9502 WRITE(6,9503)		
1755	9503 FORMAT(1H,70X,39H** CTOT (CALLED FROM MFLD) - 1P(35) **)		
1756	9505 CALL CTOT		
1757	TOR(1+20) = YC(9)		MODT0890
1758	TOR(1+30) = YC(2)		MODT0900
1759	122 CONTINUE		MODT0910
1760	C		MODT0920
1761	C	**SETUP POINT 2*	MODT0930
1762	TCS(40) = (TG(2) - TG(1))/D(4)		MODT0940
1763	IF (81502/D(10) - TCS(40)) 123,124,124		MODT0950
1764	123 TCS(40) = 81502/D(10)		MODT0960
1765	124 TCS(40) = TCS(40) + TG(1)		MODT0970
1766	C		MODT0980
1767	C	**INTERPOLATE FOR EI,GJ**	MODT0990
1768	CALL TPINT(TG(1),CC(110),TCS(40))		MODT1000
1769	TCS(88) = TT(2)*TCS(88)		MODT1010
1770	CALL TPINT(TG(1),CC(117),TCS(40))		MODT1020
1771	TCS(88) = TT(2)*TCS(88)		MODT1030
1772	C		MODT1031
1773	C	**SETUP MT FACTORS FOR FLEX LOADS FUEL CELL 1 AND 2**	MODT1032
1774	TOR(83) = TWO(305)		MODT1033

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1775	TOR(84) = TNG(388)		MODT1834
1776	TOR(85) = TNG(387)		MODT1835
1777	TOR(86) = TNG(400)		MODT1836
1778	TOR(87) = TNG(383)		MODT1837
1779	TOR(88) = TNG(386)		MODT1838
1780	DO 1249 1=1,2		MODT1839
1781	IF (TOR(1+80)) 1249,1249,1249		MODT1840
1782	1249 IF (OFW(1)) 1244,1244,1241		MODT1841
1783	1241 TOR(1+80) = OFW(1)*TOR(1+82)		MODT1842
1784	IF (D(1) - OFW(1)) 1242,1244,1244		MODT1843
1785	1242 TOR(1+80) = OFW(1)		MODT1844
1786	IF (TOR(1+82) - TOR(1+80)) 1243,1244,1244		MODT1845
1787	1243 TOR(1+80) = TOR(1+82)		MODT1846
1788	1244 TOR(1+80) = (TOR(1+82) - TOR(1+80) + TOR(1+84))/TOR(1+86)		MODT1847
1789	1249 CONTINUE		MODT1848
1790	C		MODT1849
1791	C	***SUM PANEL WEIGHTS, MOMENT, INERTIA(PITCH,ROLL)***	MODT1850
1792	C	***K(FUEL(1))=TOR(81), K(FUEL(2))=TOR(82)***	MODT1850
1793	C		MODT1870
1794	C		MODT1880
1795	DO 127 1=1,10		MODT1890
1796	TCS(1+4) = CLE(1+81) + CTE(1+81) + CTB(1+81) + CHI(1+81) + THO(1+80)		MODT1890
1797	18R(81) = CFL(1+81) + TOR(82) = CFL(2+81)		MODT1890
1798	TOR(1) = CLE(1+182) + CTE(1+182) + CTB(1+182) + CHI(1+182) + THO(1+120)		MODT1890
1799	18R(81) = CFL(1+182) + TOR(82) = CFL(2+1+182)		MODT1890
1800	TOR(1+10) = CLE(1+113) + CTE(1+113) + CTB(1+113) + CHI(1+113)		MODT1890
1801	1+ TOR(81) = CFL(1+113) + TOR(82) = CFL(2+1+113)		MODT1890
1802	TOR(1+40) = CLE(1+124) + CTE(1+124) + CTB(1+124) + CHI(1+124)		MODT1890
1803	1+ TOR(81) = CFL(1+124) + TOR(82) = CFL(2+1+124)		MODT1890
1804	TOR(1+50) = CLE(1+135) + CTE(1+135) + CTB(1+135) + CHI(1+135)		MODT1890
1805	1+ TOR(81) = CFL(1+135) + TOR(82) = CFL(2+1+135)		MODT1890
1806	C		MODT1890
1807	C	*TEST ZERO HEIGHT*	MODT1890
1808	IF (TCS(1+4)) 125,126,125		MODT1890
1809	125 TOR(1) = TOR(1)/TCS(1+4)		MODT1890
1810	TOR(1+10) = TOR(1+10)/TCS(1+4)		MODT1890
1811	C		MODT1890
1812	C	***C. PNL CO LOC AS FRACTION OF TRAPEZOIDAL CHORD**	MODT1890
1813	TCS(1+14) = (TGA(1+32) - TOR(1+10) - TOR(1+30))/TOR(1+20)		MODT1890
1814	GO TO 127		MODT1890
1815	C		MODT1890
1816	C	*HT=0. USE ARM AT EA*	MODT1890
1817	126 TCS(1+14) = (TGA(1+32) - TOR(1+30))/TOR(1+20)		MODT1890
1818	127 CONTINUE		MODT1890
1819	C		MODT1890
1820	C	*PUNCH FLEX LOADS DATA FOR FIXED WIND ONLY*	MODT1890
1821	C	*FLEX LOADS DATA. PUNCH BY ARRAY FORMAT FOR DECRO**	PINT8159
1822	C	*REQ COL 73-2 FOR SHEEP 11, COL 74-76=CASE NO.	PINT8169
1823	C	*COL 77-78 FOR BY ARRAY*	PINT8170
1824	C	*COL 79-80 BY ARRAY LOC OF FIRST FIELD DATA.*	PINT8179
1825	C	***TEST FOR PUNCHED DATA**	
1826	C		PINT8210
1827	100 WRITE (8,10) NCASE		PINT8190
1828	101 FORMAT (12H) CASE NO.13,95H ***FLEXIBLE LOADS INERTIA DATA.PINT8200		
1829	1 OF ARRAY DATA***,28X,11H** WFLD0 ***)		
1830	C		
1831	N = ND(1)		PINT8220
1832	K = ND(2)		PINT8230
1833	WRITE (8,103)N,TCS(1),TCS(2),K,NCASE,N		PINT8240
1834	IF (DINTP1052,1052,1010		
1835	1010 PUNCH 182,N,TCS(1),TCS(2),K,NCASE,N		PINT8250
1836	102 FORMAT (8X,13,BF12.5,36X,11,13,1H,13)		PINT8260
1837	103 FORMAT (3X,13,BF16.5,36X,11,13,1H,13)		PINT8270
1838	104 FORMAT (8X,13,9E12.5,11,13,1H,13)		PINT8280
1839	105 FORMAT (3X,13,9E16.0,2X,11,13,1H,13)		PINT8290
1840	C		PINT8300
1841	1050 FORMAT (11H-,8X,13,E12.5,36X,11,13,1H,13)		PINT8305
1842	1061 FORMAT (8H-,1X,13,E16.0,36X,11,13,1H,13)		PINT8308
1843	C	*CARD NO. 8*	PINT8310
1844	1052 N = ND(3)		PINT8320
1845	WRITE (8,103)N,TCS(3),TCS(4),K,NCASE,N		PINT8330

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1046	IF(DINTP)1054,1054,1053		
1047	1053 PUNCH 102,M,TCS(1),TCS(4),K,NCASE,M		PINT0340
1048	C		PINT0350
1049	C *CARDS 3-8*		PINT0360
1050	1054 DO 106 N=5,20,5		PINT0370
1051	L = N + ND(4)		PINT0380
1052	WRITE (6,1051N,(TCS(1),1-N,L),K,NCASE,M		PINT0390
1053	IF(DINTP)106,106,1055		
1054	1055 PUNCH 104,M,(TCS(1),1-N,L),K,NCASE,M		PINT0400
1055	106 CONTINUE		PINT0410
1056	C *CARD 1*		PINT0420
1057	N = 25		PINT0430
1058	WRITE (6,1031N,(CS(25),TCS(26),K,NCASE,M		PINT0440
1059	IF(DINTP)1061,1061,1060		
1060	1060 PUNCH 102,M,TCS(25),TCS(26),K,NCASE,M		PINT0450
1061	C		PINT0460
1062	C *CARDS 8-23*		PINT0470
1063	1061 DO 107 N=27,102,5		PINT0480
1064	L = N+ND(4)		PINT0490
1065	WRITE (6,1051N,(TCS(1),1-N,L),K,NCASE,M		PINT0500
1066	IF(DINTP)107,107,1062		
1067	1062 PUNCH 104,M,(TCS(1),1-N,L),K,NCASE,M		PINT0510
1068	107 CONTINUE		PINT0520
1069	C		PINT0520
1070	C **PUNCH X-LAST CARD FOR BF ARRAY. LOC(107)=0.0**		PINT0530
1071	N = 107		PINT0540
1072	WRITE (6,1051N,DC(1),K,NCASE,M		PINT0550
1073	IF(DINTP)499,499,108		
1074	108 PUNCH 1050,N,DC(1),K,NCASE,M		PINT0560
1075	C		PINT0570
1076	C		MODT1340
1077	C		WFLD9900
1078	C ***EXIT****		WFLD9990
1079	499 RETURN		WFLD9998
1080	END		WFLD9999
1081	C*****		
1082	C		
1083	C *****SUBROUTINE WFLD*****		
1084	C ***MBS/DESIGN DATA EVALUATION FOR FLUTTER Q** PROGRAM***		
1085	C		
1086	C*****		
1087	C		
1088	SUBROUTINE WFLD		WFLD0010
1089	C		MODT0020
1090	C **OUTPUT FLUTTER ANALYSIS MASS PROPERTIES D**A**		WFLD0030
1091	C		MODT0040
1092	C		MODT0050
1093	COMMON T		MODT0060
1094	COMMON /IPRINT/ IP(80)		MODT0061
1095	C		MODT0070
1096	DIMENSION T(7120),D(2060),CD(2000),ND(100),DC(100),TH(900),		WFLD0080
1097	1YC(150),YTC(60),T(1300),THG(400),CC(1300),TCS(250),		MODT0081
1098	ACLE(1150),CTE(1150),CFL(1150),CFLP(1150),CHI(1150),		MODT0082
1099	3CCDL(1150),TST(50),TOR(100),CTB(1150),		MODT0083
1100	4TAND(9),CCLO(9),SIND(8),COS(16),		MODT0084
1101	5DWF(2),DWC(2),		MODT0085
1102	6CCDL(100),		MODT0086
1103	9TT(24)		MODT0089
1104	C		MODT0090
1105	EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),		MODT0100
1106	1(DC(1),D(1401)),(TT(1),T(411)),(YC(1),T(201)),(YTC(1),T(351)),		MODT0101
1107	2(THG(2),T(81)),(TH(1),T(621)),(BS1(2),T(151)),		MODT0102
1108	3(T(61),T(1001)),(THG(1),T(1301)),		MODT0103
1109	4(TST(1),T(1701)),(TOR(1),T(1751)),(CTB(1),CD(351)),		MODT0104
1110	5(CLE(1),CD(651)),(CTE(1),CD(801)),(CFL(1),CD(951)),		MODT0105
1111	6(CFLP(1),CD(1101)),(CHI(1),CD(1251)),(CCDL(1),CD(1501)),		MODT0106
1112	7(CCL(1),CD(1851)),(TCS(1),CD(1401)),		MODT0107
1113	8(AC(1),D(4301)),		MODT0108
1114	9(N,ND(301)),(1,ND(291)),(K,ND(311)),(L,ND(281)),(M,ND(271))		MODT0109
1115	C		MODT0110
1116	EQUIVALENCE (TAND(1),T(1221)),(CCLO(1),T(131)),(SIND(1),T(1401)),		MODT0120

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SAGEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONT.	****
1017	1(CO50(1),T(146)),(WKS(1),D(300)),		MODT0121
1018	2(DGWF,D(295)),(CGFS,D(296)),(DMIT,D(297)),(DMIX,D(298)),		MODT0122
1019	3(IMPC,D(299)),(IMCY,D(300)),(IMCX,D(301)),		MODT0123
1020	4(IMCY,D(302)),(IMCX,D(303)),(WFM,D(304)),		MODT0124
1021	5(WALT,D(305)),(WFM,D(306)),(WDE,D(307)),(WFG,D(308)),		MODT0125
1022	6(DWFF(1),D(276)),(DWFC(1),D(278)),(DCOL(1),D(1095))		MODT0129
1023	C		MODT0140
1024	C		MODT1750
1025	C	***TEST FOR ADV. COMPOSITE DESIGN***	MODT1760
1026	C	*IF ADV. COMPOSITE, SETUP STIFFNESS DATA FROM RCD IN*	MODT1770
1027	C	*READ DATA IN CD(1401-1800), PROCESS AND CLEAR*	MODT1780
1028	IF (ACID) 170,170,170		MODT1780
1029	170 CALL READMS (1,CD(1401),400,14)		MODT1800
1030	DO 171 I=1,11		MODT1810
1031	CC(1+(100) = CD(1+(1507)		MODT1820
1032	CC(1+(71) = CD(1+(1576)		MODT1830
1033	TM(1+(56) = CD(1+(1609)		MODT1840
1034	TM(1+(87) = CD(1+(1588)		MODT1850
1035	171 CONTINUE		MODT1860
1036	C		MODT1870
1037	CC(183) = CD(1810)		MODT1880
1038	CC(184) = CD(1599)		MODT1890
1039	C		MODT1900
1040	C	***CLEAR CD(1401-1800)***	MODT1910
1041	DO 172 I=1,400		MODT1920
1042	CD(1+(1400) = DC(3)		MODT1930
1043	172 CONTINUE		MODT1940
1044	C		MODT1950
1045	C	***CLEAR TST ARRAY***	MODT1960
1046	170 DO 170 I=1,50		MODT1970
1047	TST(I) = DC(3)		MODT1980
1048	170 CONTINUE		MODT1990
1049	C		MODT2000
1050	C	***SETUP FUEL FACTORS TST(134,35) FOR FLUTTER ANALYSIS***	MODT2010
1051	180 TST(136) = TM(1395)		MODT2020
1052	TST(138) = TM(1387)		MODT2030
1053	TST(140) = TM(1383)		MODT2040
1054	TST(137) = TM(1388)		MODT2050
1055	TST(139) = TM(1400)		MODT2060
1056	TST(141) = TM(1386)		MODT2070
1057	DO 186 I=1,2		MODT2080
1058	TST(1+(33) = DC(3)		MODT2090
1059	IF (TST(1+(39)) 185,185,181		MODT2100
1060	181 IF (DWFF(1)) 185,185,182		MODT2110
1061	182 TST(1+(33) = DWFF(1)+TST(1+(35)		MODT2120
1062	IF (D(1) - DWFF(1)) 183,185,185		MODT2130
1063	183 TST(1+(33) = DWFF(1)		MODT2140
1064	IF (TST(1+(35) - TST(1+(33)) 184,185,185		MODT2150
1065	184 TST(1+(33) = TST(1+(35)		MODT2160
1066	185 TST(1+(33) = (TST(1+(35) - TST(1+(33) + TST(1+(37))/TST(1+(39)		MODT2170
1067	186 CONTINUE		MODT2180
1068	C		MODT2190
1069	C	***SETUP FOR COL(1+3,2+4)***	MODT2200
1070	C	*CHECK (1,2) FOR DELTA MT INDICATION*	MODT2210
1071	C	*IF ID NOT ZERO COMBINE. IF ZERO USE ONLY*	MODT2220
1072	C		MODT2230
1073	C	*STORE (1+3) DATA IN COL(1), (2+4) DATA IN COL(2) BLOCKS 12230	
1074	DO 187 N=1,2		MODT2240
1075	K = N*MD(12) - MD(11)		MODT2250
1076	C		MODT2260
1077	C	***MOVE COL(1,2) TO TST(136-147)***	MODT2260
1078	C	***MOVE COL(3,4) TO TST(22-33)***	MODT2261
1079	C	***MOVE COL(3,4) TO COL(1,2)***	MODT2262
1080	DO 187 I=1,12		MODT2270
1081	L = K + I - MD(1)		MODT2280
1082	TST(1+(35) = CCOL(1(L)		MODT2290
1083	TST(1+(21) = CCOL(1(L+24)		MODT2300
1084	CCOL(1(L) = CCOL(1(L+24)		MODT2310
1085	187 CONTINUE		MODT2320
1086	C		MODT2330
1087	C		MODT2340

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
1000	C	**COMBINE 1 WITH 3, 2 WITH 4. TEST FOR MT 1,3**	MOD12350
1009	C	*IF ID IN DATA SET LOC 12 FOR COL(1,2)=10 COMBINE*	MOD12351
1000	C	*IF ID=0, USE COL(3,4) ONLY*	MOD12352
1001	100	IF (TST(36)) 104,104,1000	MOD12360
1002	1000	IF (COL(1K+1)) 104,104,100	MOD12365
1003	100	IF (DWFC(N) - D(1)) 100,104,101	MOD12370
1004	100	TST(40) = DWFC(N)*TST(36)	MOD12380
1005	GO TO 102		MOD12390
1006	101	TST(40) = DWFC(N)	MOD12400
1007	IF (TST(40) - TST(36)) 102,104,104		MOD12410
1008	102	TST(40) = D(1) - TST(40)/TST(36)	MOD12420
1009	C		MOD12429
2000	C	*SCALE COL(1,3) MT AND 11Y,X,21*	MOD12430
2001		TST(36) = TST(36)*TST(40)	MOD12440
2002	DO 103 1=1,3		MOD12450
2003		TST(1+20) = TST(1+20)*TST(40)	MOD12460
2004	103	CONTINUE	MOD12470
2005	C		MOD12480
2006	C	*CALC COMPOSITE X,Z CO*	MOD12490
2007		CCOL(1K) = TST(22) + TST(36)	MOD12500
2008		CCOL(1K+1) = (TST(36)*TST(37) + TST(22)*TST(23))/CCOL(1K)	MOD12508
2009		CCOL(1K+2) = (TST(36)*TST(38) + TST(22)*TST(24))/CCOL(1K)	MOD12510
2010		CCOL(1K+3) = (TST(36)*TST(39) + TST(22)*TST(25))/CCOL(1K)	MOD12520
2011		CCOL(1K+8) = TST(30) + TST(24) - CCOL(1K+2)	MOD12530
2012		CCOL(1K+9) = TST(31) - TST(25) + CCOL(1K+2)	MOD12540
2013		CCOL(1K+10) = CCOL(1K+1) - SIN(3)*CCOL(1K+2)	MOD12550
2014		CCOL(1K+11) = CCOL(1K+2)*COS(3)	MOD12560
2015	C		MOD12570
2016	C	**11YY, 11XX, 11ZZ**	MOD12580
2017		TST(10) = (TST(30) - CCOL(1K+2))*(TST(30) - CCOL(1K+2))	MOD12590
2018		TST(10) = (TST(24) - CCOL(1K+2))*(TST(24) - CCOL(1K+2))	MOD12600
2019		TST(21) = (TST(30) - CCOL(1K+3))*(TST(30) - CCOL(1K+3))	MOD12610
2020		TST(20) = (TST(25) - CCOL(1K+3))*(TST(25) - CCOL(1K+3))	MOD12620
2021		CCOL(1K+4) = TST(20) + TST(40) + TST(22)*(TST(10) + TST(20)) + TST(20)*TST(10)	MOD12630
2022		1(36)*(TST(10) + TST(20))	MOD12640
2023		CCOL(1K+5) = TST(27) + TST(41) + TST(22)*TST(20) + TST(36)*TST(21)*MOD12650	
2024		CCOL(1K+6) = TST(28) + TST(42) + TST(22)*TST(10) + TST(36)*TST(19)*MOD12660	
2025	C		MOD12670
2026	C	*LOOP FOR SET (2,4)*	MOD12680
2027	104	CONTINUE	MOD12690
2028	C		MOD12700
2029	C		MOD13000
2030	C	**SETUP OUTPUT DATA FOR FLUTTER OPT. PROGRAM**	MOD13010
2031	C	*CONC. MAC/STORES*	MOD13020
2032	C	*STORE/MAC/LE DATA STORED IN COL(1,2) BLOCKS*	MOD13030
2033	C	*CONC. MAC/STORES AT COL STA 1 AND 2 ONLY.**	MOD13040
2034	C	*LOCATE ONLY THE EXPENDABLE STORE MT. AT STA 1,2*	MOD13050
2035	C		MOD13060
2036	C		MOD13070
2037	C	*CLEAR TOR AND TCS ARRAYS*	MOD13080
2038	DO 201 1=1,50		MOD13090
2039		TOR(1) = DC(3)	MOD13100
2040		TOR(1+50) = DC(3)	MOD13110
2041	201	CONTINUE	MOD13120
2042	DO 202 1=1,250		MOD13130
2043		TCS(1) = DC(3)	MOD13140
2044	202	CONTINUE	MOD13150
2045	C		MOD13160
2046	C	*MOVE E1,0J DATA TO CCOL LOC*	MOD13170
2047	DO 203 1=1,11		MOD13180
2048		CCOL(11+81) = CC(11+100)	MOD13190
2049		CCOL(11+102) = CC(11+171)	MOD13200
2050	203	CONTINUE	MOD13210
2051	C		MOD13220
2052	C	**SETUP BASIC DATA**	MOD13230
2053	204	CCOL(1114) = CC(1103)	MOD13240
2054		CCOL(1115) = CC(1104)	MOD13250
2055		CCOL(1116) = CC(1105)	MOD13260
2056		IF (WDC) 206,206,205	MOD13270
2057	205	CCOL(1114) = WDC	MOD13280
2058	206	IF (WDC) 206,206,207	MOD13290

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	***	CONTENTS	****
2059	207 CCOL1(115) = WDO		MOOT3290
2060	C		MOOT3290
2061	C	***SCALE E1/GJ TO DESIGN E AND G VALUES***	MOOT3290
2062	208 TT(3) = CCOL1(114)/CCOL1(103)		MOOT3290
2063	TT(4) = CCOL1(115)/CCOL1(104)		MOOT3291
2064	C		MOOT3291
2065	DO 2080 I=1,11		MOOT3292
2066	CCOL1(1+91) = CCOL1(1+91)*TT(3)		MOOT3294
2067	CCOL1(1+102) = CCOL1(1+102)*TT(4)		MOOT3295
2068	TH(1+956) = TH(1+956)*TT(3)		MOOT3296
2069	TH(1+967) = TH(1+967)*TT(4)		MOOT3297
2070	2080 CONTINUE		MOOT3300
2071	C		MOOT3301
2072	C	***SETUP FLUTTER DESIGN SPEED AND DENSITY OF AIR***	MOOT3302
2073	C	*DATA TO BE 1. INPUT SPEED IN KNOTS AND AIR DENSITY.	MOOT3303
2074	C	*2. INPUT H MD. PLUS ALT. AND/OR RHODAIR)*	MOOT3304
2075	C	*INPUT RECD V1 SPEED = DESIGN VIL1.	MOOT3305
2076	C	*ACT SPEED RECD WILL BE FACTORED WITH W/ MARGIN K=1.15*	MOOT3306
2077	C	*MAX SPEED WILL NOT BE GREATER THAN M=1.0 AT S.L.*	MOOT3307
2078	C	*DC(1N)= M 1.0. FOR GREATER SPEED THIS VALUE MUST BE	MOOT3308
2079	C	CHANGED* (NOTE -IF INPUT SPEED=0, USE M MAX AT ALT)	MOOT3309
2080	TT(1) = WALT - DC(5)		MOOT3310
2081	IF (TT(1)) 209,209,2090		MOOT3320
2082	C		MOOT3320
2083	C	*ALT. LESS THAN 35332 FT*	MOOT3329
2084	209 TT(2) = DC(12) - DC(11)*WALT		MOOT3330
2085	TT(3) = D(1) - DC(10)*WALT		MOOT3335
2086	TT(4) = EXP(DC(9)*ALOG(TT(3)))		MOOT3340
2087	GO TO 210		MOOT3345
2088	C		MOOT3348
2089	C	*ALT EQUAL, GREATER THAN 35332 FT*	MOOT3349
2090	2090 TT(2) = DC(6)		MOOT3350
2091	TT(3) = TT(1)/DC(7)		MOOT3360
2092	TT(4) = DC(8)/EXP(TT(3))		MOOT3370
2093	C		MOOT3370
2094	C	***CALC DENSITY OF AIR AND SPEED IN KNOTS AT M 1.0***	MOOT3379
2095	210 CCOL1(117) = TT(4)*DC(2)		MOOT3380
2096	TT(5) = TT(2)*DC(1)		MOOT3390
2097	C		MOOT3390
2098	C	***TEST DENSITY INPUT***	MOOT3399
2099	IF (WDO) 212,212,211		MOOT3400
2100	211 CCOL1(117) = WDO		MOOT3410
2101	C		MOOT3410
2102	C	*RECD SPEED*	MOOT3410
2103	212 TT(6) = DC(14)*TT(5)*WKSF		MOOT3420
2104	CCOL1(118) = TT(6)		MOOT3430
2105	IF (WDO) 2124,2124,2120		MOOT3440
2106	2120 CCOL1(118) = WDO*WKSF		MOOT3450
2107	IF (WDO) 2121,2121,2122		MOOT3460
2108	2121 CCOL1(118) = CCOL1(118)*TT(5)		MOOT3470
2109	2122 IF (TT(6) - CCOL1(118)) 2123,2123,2124		MOOT3480
2110	2123 CCOL1(118) = TT(6)		MOOT3480
2111	C		MOOT3490
2112	C	*DON LESS WING AND CONTENTS*	MOOT3500
2113	2124 CCOL1(119) = DC(3)		MOOT3501
2114	CCOL1(120) = DC(3)		MOOT3502
2115	CCOL1(121) = DC(3)		MOOT3503
2116	CCOL1(122) = DC(3)		MOOT3504
2117	CCOL1(123) = DC(3)		MOOT3505
2118	IF (DOHW) 2126,2126,2125		MOOT3506
2119	2125 CCOL1(119) = DOHW - MIPC*0(2)		MOOT3510
2120	CCOL1(120) = (DOHW*COFS - MIPC*MACX/D(10)/CCOL1(119) - TO(23)		MOOT3520
2121	CCOL1(122) = BS102		MOOT3530
2122	TST(7) = COFS - CCOL1(120) - TO(23)		MOOT3540
2123	TST(8) = COFS - MACX		MOOT3545
2124	CCOL1(121) = DOHW - CCOL1(119)*TST(7)*TST(7) - MACY*0(2) - MIPC*		MOOT3550
2125	TST(10)/D(10)*TST(8)		MOOT3551
2126	CCOL1(123) = DOHW - MACX*0(2) - MIPC*MACY/D(10)*MACY		MOOT3560
2127	C		MOOT3570
2128	C	* FLUTTER OPTIMIZATION PROGRAM WORK ON HALF AN AIRPLANE	MOOT3571
2129	CCOL1(119) = CCOL1(119) / D(2)		MOOT3572

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE
CARD NO	****	CONTENTS	****
2130		CCDL1(121) = CCDL1(121) / D(2)	MOD13573
2131		CCDL1(123) = CCDL1(123) / D(2)	MOD13574
2132	C	*SETUP CONC. MASS DATA AS RECD*	MOD13580
2133		2126 CCDL1(150) = D(1)	MOD13590
2134		TOR(90) = D(1)	MOD13595
2135		TOR(100) = D(1)	MOD13596
2136	C		MOD13599
2137		DO 224 N=1,2	MOD13600
2138		TCS(N+246) = DC(3)	MOD13601
2139		TCS(N+248) = DC(3)	MOD13602
2140		K = N+D(12) - MD(11)	MOD13610
2141		L = N+13 - MD(12)	MOD13620
2142		IF (CCDL1(K)) 213,224,213	MOD13630
2143		213 IF (CCDL1(N+84)) 214,224,214	MOD13640
2144		214 CCDL1(L+123) = CCDL1(K+1)	MOD13650
2145		CCDL1(L+124) = CCDL1(K+7)	MOD13660
2146	C		MOD13661
2147	C	*CLEAR WORKING REGION*	MOD13662
2148		DO 2140 I=1,7	MOD13663
2149		TOR(I+9) = DC(3)	MOD13664
2150		2140 CONTINUE	MOD13665
2151	C		MOD13669
2152	C	*CALC. CONC. MASS 3X3 MATRIX ELEMENT DATA*	MOD13670
2153		TST(20) = CCDL1(K)*CCDL1(K+2)	MOD13680
2154		TST(29) = CCDL1(K+2)*SIND(3)	MOD13690
2155		TST(29) = CCDL1(K)*(CCDL1(K+3)*CCDL1(K+3) + TST(29)*TST(29))	MOD13700
2156		TST(30) = CCDL1(K+2)*COSD(3)	MOD13710
2157		TST(30) = CCDL1(K)*(CCDL1(K+3)*CCDL1(K+3) + TST(30)*TST(30))	MOD13715
2158		CCDL1(L+127) = CCDL1(K)	MOD13720
2159		CCDL1(L+128) = TST(29)*SIND(3)	MOD13730
2160		CCDL1(L+129) = TST(29)*COSD(3)	MOD13740
2161		CCDL1(L+130) = CCDL1(L+128)	MOD13750
2162		CCDL1(L+133) = CCDL1(L+129)	MOD13760
2163		CCDL1(L+131) = TST(29) + CCDL1(K+5)*COSD(3)*COSD(3) + CCDL1(K+4)*SIND(3)*SIND(3)	MOD13770
2164		SIND(3)*SIND(3)	MOD13780
2165		CCDL1(L+132) = (TST(29)*CCDL1(K+2) - CCDL1(K+5) + CCDL1(K+4))*SIND(3)*SIND(3)	MOD13790
2166		(3)*COSD(3)	MOD13791
2167		CCDL1(L+134) = CCDL1(L+132)	MOD13800
2168		CCDL1(L+135) = TST(30) + CCDL1(K+5)*SIND(3)*SIND(3) + CCDL1(K+4)*COSD(3)*COSD(3)	MOD13810
2169		(COSD(3)*COSD(3))	MOD13820
2170	C		MOD13830
2171	C	*INTERPOLATE FOR E1,GJ AND GEOM*	MOD13840
2172	C		MOD13841
2173	C	*CHECK FOR RELATIVE LOC OF CD(1) TO CONTROL STATIONS*	MOD13842
2174		*IF ABS(Y) WITHIN 1.0 INCH-DC(16) - OR .01*(Y(1)-Y(1-1))	MOD13843
2175	C	*SET CD AT THAT STATION NO ADD-MASS STATION RECD.*	MOD13844
2176	C	*SET STATION NO TO (-1) FOR CARD TYPE (6,8,11,12) SKIP*	MOD13845
2177	C		MOD13846
2178	C	*INTERPOLATE E, G FOR ADV. COMPOSITES*	MOD13847
2179	C		MOD13848
2180		I = MD(2)	MOD13850
2181		215 TOR(93) = T(1) - CCDL1(K+1)	MOD13855
2182		TST(7) = T(1) - T(1-1)	MOD13856
2183		TST(8) = DC(15)*TST(7)	MOD13857
2184		IF (TST(8) - DC(18)) 2150,2151,2151	MOD13860
2185		2150 TST(8) = DC(18)	MOD13861
2186		2151 IF (ABS(TOR(93)) - TST(8)) 2152,2152,2153	MOD13865
2187		2152 TOR(N+90) = -D(1) - CCDL1(150)	MOD13866
2188		GO TO 224	MOD13870
2189		2153 IF (TOR(93)) 216,2152,217	MOD13875
2190		216 IF (I - MD(9)) 2160,2160, 217	MOD13880
2191		2160 I = I + MD(1)	MOD13885
2192		GO TO 215	MOD13886
2193		217 TST(1) = T(1-1)	MOD13890
2194		TST(2) = T(1)	MOD13900
2195		TST(3) = T(1+1)	MOD13910
2196		TST(4) = CCDL1(1+90)	MOD13920
2197		TST(5) = CCDL1(1+91)	MOD13930
2198		TST(6) = CCDL1(1+92)	MOD13940
2199		TST(31) = CCDL1(K+1)	MOD13950
2200		CALL TPINT(TST(1),TST(4),TST(31))	MOD13960

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
2201	CCOL(1L+125) = TT(2)		MODT3970
2202	TST(4) = CCOL(1L+101)		MODT3980
2203	TST(5) = CCOL(1L+102)		MODT3990
2204	TST(6) = CCOL(1L+103)		MODT4000
2205	CALL TPINT(TST(1),TST(4),TST(3))		MODT4010
2206	CCOL(1L+126) = TT(2)		MODT4020
2207	TOR(1+98) = D(1) + CCOL(1L+150)		MODT4030
2208	C		MODT4031
2209	C **CHECK FOR ADV. COMP.**		MODT4032
2210	IF (AC10) 2171,2171,2170		MODT4033
2211	2170 TST(4) = TM(1+855)		MODT4034
2212	TST(5) = TM(1+856)		MODT4035
2213	TST(6) = TM(1+857)		MODT4036
2214	CALL TPINT(TST(1),TST(4),TST(3))		MODT4037
2215	TCS(1+2+6) = TT(2)		MODT4038
2216	TST(4) = TM(1+866)		MODT4039
2217	TST(5) = TM(1+867)		MODT4040
2218	TST(6) = TM(1+868)		MODT4041
2219	CALL TPINT(TST(1),TST(4),TST(3))		MODT4042
2220	TCS(1+2+6) = TT(2)		MODT4043
2221	C		MODT4049
2222	C *CARD TYPE B AND 12 DATA*		MODT4050
2223	C *CHECK INTERVAL WITH MT STA 11. IF 000, SET AT 11.		MODT4060
2224	C *IF 100, CHECK STA INCREMENT NO 10(TST(8))*		MODT4070
2225	2171 IF (ND(10) - 1) 210,210,221		MODT4080
2226	210 IF (TOR(83)) 219,221,221		MODT4090
2227	219 TOR(83) = TG(11) - CCOL(1K+1)		MODT4100
2228	I = ND(11)		MODT4110
2229	IF (TST(8) - ABS(TOR(83))) 220,2152,2152		MODT4120
2230	220 IF (TOR(83)) 2152,2152,221		MODT4130
2231	221 CCOL(1L+150) = CCOL(1L+150) + D(1)		MODT4140
2232	C		MODT4150
2233	C		MODT4160
2234	C *INTERPOLATE FOR WIDTH, DEPTH ON INDEX I.*		MODT4170
2235	TST(8) = (CCOL(1K+1) - TG(1-1))/(TG(1) - TG(1-1))		MODT4180
2236	TOR(82) = TG(1+275) + TST(8)*(TG(1+276) - TG(1+275))		MODT4190
2237	TOR(84) = TG(1+284) + TST(8)*(TG(1+285) - TG(1+284))		MODT4200
2238	TOR(85) = DC(3)		MODT4210
2239	TOR(88) = D(2)*D(15)*COS(6)		MODT4220
2240	TT(1) = CCOL(1K+7)		MODT4230
2241	TT(2) = DC(3)		MODT4240
2242	IF (IP(35)) 5002,5002,5005		
2243	5002 WRITE(6,5003)		
2244	5003 FORMAT(1H,70X,3BH** CTOT (CALLED FROM WFOO) - IP(35) **)		
2245	5005 CALL CTOT		
2246	TOR(86) = YC(8)		MODT4260
2247	TOR(87) = YC(4) - TT(1)*TAND(6) - CCLO(6)		MODT4270
2248	C		MODT4280
2249	C *MOVE DATA*		MODT4290
2250	M = N*ND(3) - ND(3)		MODT4300
2251	DO 222 I=1,3		MODT4310
2252	K = M+1		MODT4320
2253	TOR(K+95) = TOR(1+95)		MODT4330
2254	222 CONTINUE		MODT4340
2255	M = N*ND(6) - ND(6)		MODT4350
2256	TOR(M+70) = CCOL(1L+125)		MODT4360
2257	TOR(M+71) = CCOL(1L+126)		MODT4370
2258	DO 223 I=1,4		MODT4380
2259	K = M+1		MODT4390
2260	TOR(K+85) = TOR(1+81)		MODT4400
2261	223 CONTINUE		MODT4410
2262	C		MODT4420
2263	C *LOOP FOR COL 2 *		MODT4430
2264	224 CONTINUE		MODT4440
2265	C		MODT4450
2266	C *PROCESS II STRIP MT, CO, PITCH/ROLL INERTIA*		MODT4460
2267	DO 226 I=1,11		MODT4470
2268	TOP(I) = CLE(1+36) + CTE(1+36) + CTB(1+36) + CH(1+36) + TST(3)		MODT4480
2269	IN I = CLE(1+36) + TST(35) + CLE(2+36)		MODT4490
2270	C		MODT4500
2271	TOR(1+11) = CLE(1+47) + CTE(1+47) + CTB(1+47) + CH(1+47) + TST(3)		MODT4510

CARD NO	CONTENTS	MOD
2272	17(34) = CFL(11) + 47) + TST(35) = CFL(21) + 47)	MODT4520
2273	C	MODT4530
2274	TOR(1+22) = CLE(11+58) + CTE(11+58) + CTB(11+58) + CHI(11+58) + TS400T4540	MODT4540
2275	17(34) = CFL(11) + 58) + TST(35) = CFL(21) + 58)	MODT4550
2276	C	MODT4560
2277	TOR(1+33) = CLE(11+69) + CTE(11+69) + CTB(11+69) + CHI(11+69) + TS400T4570	MODT4570
2278	17(34) = CFL(11) + 69) + TST(35) = CFL(21) + 69)	MODT4580
2279	C	MODT4590
2280	TOR(1+44) = CLE(11+80) + CTE(11+80) + CTB(11+80) + CHI(11+80) + TS400T4600	MODT4600
2281	17(34) = CFL(11) + 80) + TST(35) = CFL(21) + 80)	MODT4610
2282	C	MODT4619
2283	C *TEST ZERO PANEL MT.*	MODT4620
2284	IF (TOR(11) 225,226,225	MODT4630
2285	225 TOR(1+11) = TOR(1+11)/TOR(11)	MODT4640
2286	TOR(1+22) = -TOR(1+22)/TOR(11)	MODT4650
2287	GO TO 227	MODT4660
2288	226 TOR(1+11) = DC(13)	MODT4670
2289	TOR(1+22) = DC(13)	MODT4680
2290	C	MODT4690
2291	C **ITY(PITCH) ABOUT CG**	MODT4700
2292	227 TOR(1+33) = TOR(1+33) - TOR(1+22)*TOR(1+22)	MODT4710
2293	226 CONTINUE	MODT4720
2294	C	MODT4730
2295	C ***PROCESS STRIP AND CONC. MASS DATA FOR OUTPUT***	MODT4740
2296	C **ADJUST CONTROL STATIONS AS REQD FOR CONC. MASSES**	MODT4750
2297	C *N = MT ANALYSIS STRIP INDEX*	MODT4760
2298	C *K = CONTROL STATION INDEX. K(MAX) = 11 + 2 = 13*	MODT4770
2299	C *L1 = CONC. MASS (1) ID. 1=TEST, 2=PROCESSED*	MODT4780
2300	C *L2 = CONC. MASS (2) ID. 1=TEST, 2=PROCESSED*	MODT4790
2301	C	MODT4800
2302	C *CONTROL STATION (8) CARD TYPE 8 ONLY*	MODT4810
2303	C	MODT4811
2304	C *CC(11-30) = E.G DATA FOR CARD TYPE 8**	MODT4812
2305	229 TCS(86) = TG(277)	MODT4820
2306	TCS(87) = D(11)	MODT4830
2307	TCS(88) = TG(286)	MODT4840
2308	TCS(89) = DC(13)	MODT4850
2309	TCS(70) = CCOL(119)	MODT4860
2310	TCS(71) = CCOL(1103)	MODT4870
2311	C	MODT4871
2312	CC(11) = TW(857)	MODT4872
2313	CC(116) = TW(868)	MODT4873
2314	C	MODT4874
2315	C	MODT4879
2316	C *CONTROL STA(8) = MT STA(11)*	MODT4880
2317	C *CONTROL STA(11) = MT STA(11) + 1.0 INCH*	MODT4890
2318	C *INITIALIZE BOUNDARY ID AT STATION 1. CARD TYPE 11 DATA*	MODT4891
2319	TCS(156) = D(11)	MODT4892
2320	TCS(157) = D(11)	MODT4893
2321	TCS(158) = D(12)	MODT4894
2322	TCS(159) = D(13)	MODT4895
2323	TST(132) = D(12)	MODT4896
2324	TST(133) = D(13)	MODT4897
2325	C	MODT4899
2326	TST(8) = TG(11) + D(11)	MODT4900
2327	L1 = MD(11)	MODT4910
2328	L2 = MD(11)	MODT4920
2329	C	MODT4929
2330	C *PASS 12 FOR COL(1,2) OBO OF MT. STA(11)*	MODT4929
2331	230 IAO = -1	
2332	DO 230 N=1,12	MODT4930
2333	IF (CCOL(1124)) 240,240,231	MODT4940
2334	C	MODT4949
2335	C *COL(11) EXISTS. TEST IF PROCESSED, IF NOT TEST LOC*	MODT4950
2336	C *TEST TOR(98) FOR STATION NO. IF (-1, ASSUMED TO BE AT A	MODT4951
2337	C *MT CONTROL POINT. DATAHRT TYPE 6,8,11,12 NOT REQD*	MODT4952
2338	231 IF (TOR(98)) 240,240,2310	MODT4960
2339	2310 IF (L1 - MD(12)) 232,240,240	MODT4961
2340	232 IF (N - MD(11)) 2320,2320,233	MODT4965
2341	2320 IF (CCOL(1124) - TO(11)) 233,233,240	MODT4970
2342	C	MODT4979

06/15/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS
2343	C	MODT4980
2344	C	*COL(1) WILL BE CURRENT CONTROL STATION. PROCESS DATA* MODT4990
2345	C	*INSERT 1.0 LB IN STRIP MASS LOC FOR COL(1)* MODT4991
2346	233	$K = M * L1 + L2 - MD(2)$ MODT5000
2347		$M = K * MD(8) - MD(8)$ MODT5010
2348		DO 234 I=1,6 MODT5020
2349		$L = M + 1$ MODT5030
2350		$TCS(L+71) = TOR(1+85)$ MODT5040
2351	234	CONTINUE MODT5050
2352		$TCS(M+87) = CCOL(1124) - TST(8)$ MODT5055
2353		$M = K * MD(5) - MD(4)$ MODT5060
2354		$TCS(M) = 0(1)$ MODT5070
2355		DO 235 I=1,4 MODT5075
2356		$L = M + 1$ MODT5080
2357		$TCS(L) = DC(3)$ MODT5085
2358	235	CONTINUE MODT5090
2359	C	MODT5091
2360	C	MODT5092
2361		$CC(K+1) = TCS(247)$ MODT5095
2362		$CC(K+16) = TCS(248)$ MODT5096
2363	C	MODT5097
2364		$M = K * MD(3) - MD(2)$ MODT5100
2365		$TCS(M+207) = TOR(88)$ MODT5105
2366		$TCS(M+208) = TOR(87)$ MODT5110
2367		$TCS(M+209) = TOR(88)$ MODT5115
2368		$M = K * MD(4) - MD(3)$ MODT5120
2369		$TCS(M+195) = TST(32)$ MODT5130
2370		$TCS(M+196) = TST(33)$ MODT5135
2371		$TCS(M+157) = TST(33)$ MODT5140
2372		$TCS(M+158) = TST(33) + 0(1)$ MODT5145
2373		$TST(32) = TST(33)$ MODT5150
2374		$TST(33) = TST(33) + 0(1)$ MODT5155
2375	C	MODT5156
2376	C	*SET L1 = 2. CALC DELTA Y FOR CONTROL STA N-1* MODT5158
2377		$L1 = MD(2)$ MODT5160
2378		$TST(8) = CCOL(1124)$ MODT5165
2379	C	MODT5170
2380	C	*TEST COL(2)* MODT5180
2381	C	*CHECK TOR(100) FOR VALID CONTROL STA. NO DATA REQD FOR MODT5181
2382	C	*CARD TYPES 6,8,11,12* MODT5182
2383	240	IF (CCOL(1137)) 250,250,241 MODT5190
2384	241	IF (TOR(100)) 250,250,2410 MODT5200
2385	2410	IF (L2 - MD(2)) 242,250,250 MODT5201
2386	242	IF (M - MD(1)) 2420,2420,243 MODT5205
2387	2420	IF (CCOL(1137) - TO(M)) 243,243,250 MODT5210
2388	243	$K = M * L1 + L2 - MD(2)$ MODT5220
2389		$M = K * MD(8) - MD(8)$ MODT5230
2390		DO 244 I=1,6 MODT5240
2391		$L = M + 1$ MODT5250
2392		$TCS(L+71) = TOR(1+71)$ MODT5260
2393	244	CONTINUE MODT5265
2394		$TCS(M+87) = CCOL(1137) - TST(8)$ MODT5266
2395		$M = K * MD(5) - MD(4)$ MODT5270
2396		$TCS(M) = 0(1)$ MODT5275
2397		DO 245 I=1,4 MODT5276
2398		$L = M + 1$ MODT5280
2399		$TCS(L) = DC(3)$ MODT5285
2400	245	CONTINUE MODT5290
2401	C	MODT5291
2402	C	MODT5292
2403		$CC(K+1) = TCS(248)$ MODT5295
2404		$CC(K+16) = TCS(250)$ MODT5296
2405	C	MODT5298
2406		$M = K * MD(3) - MD(2)$ MODT5300
2407		$TCS(M+207) = TOR(88)$ MODT5305
2408		$TCS(M+208) = TOR(88)$ MODT5310
2409		$TCS(M+209) = TOR(87)$ MODT5315
2410		$M = K * MD(4) - MD(3)$ MODT5320
2411		$TCS(M+195) = TST(32)$ MODT5330
2412		$TCS(M+196) = TST(33)$ MODT5335
2413		$TCS(M+157) = TST(33)$ MODT5340

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	CONTENTS		
2414	TCS(M+150) = TST(33) + D(11)		MODT5345
2415	TST(32) = TST(33)		MODT5350
2416	TST(33) = TST(33) + D(11)		MODT5355
2417	C		MODT5358
2418	C *SET L2 = 2. CALC DELTA Y FOR CONTROL STA N-1*		MODT5359
2419	L2 = ND(2)		MODT5360
2420	TST(8) = CCOL(1137)		MODT5365
2421	C		MODT5370
2422	C *PROCESS BASIC STRIP DATA*		MODT5380
2423	250 IF (N - ND(11)) 2500,2500,250		MODT5385
2424	2500 K = N + L1 + L2 - ND(2)		MODT5390
2425	N = K+ND(5) - ND(4)		MODT5400
2426	TCS(M) = TGR(N)		MODT5410
2427	TCS(M+1) = TGR(M+4)		MODT5420
2428	TCS(M+2) = TGR(M+33)		MODT5430
2429	TCS(M+3) = TGR(M+22)		MODT5440
2430	TCS(M+4) = DC(3)		MODT5450
2431	C		MODT5458
2432	C *CARD TYPE 8 DATA. 8/CARD. SECOND FIELD=N-1 DATA*		MODT5460
2433	N = K+ND(6) - ND(5)		MODT5461
2434	TCS(M+71) = TGR(M+270)		MODT5470
2435	IF (N - ND(11)) 2501,2501,2502		MODT5475
2436	2501 TCS(M+74) = ATAN(TAND(33)/D(16)		MODT5476
2437	GO TO 2503		MODT5477
2438	2502 TCS(M+66) = TGR(N) - TST(8)		MODT5480
2439	TST(8) = TGR(N)		MODT5490
2440	TCS(M+74) = DC(3)		MODT5500
2441	2503 TCS(M+73) = TGR(M+265)		MODT5510
2442	TCS(M+75) = CCOL(11481)		MODT5520
2443	TCS(M+76) = CCOL(11482)		MODT5530
2444	C		MODT5531
2445	DC(11+1) = TM(M+856)		MODT5532
2446	DC(11+10) = TM(M+867)		MODT5533
2447	C		MODT5539
2448	C *CARD TYPE 12. 3/CARD*		MODT5540
2449	N = K+ND(3) - ND(2)		MODT5541
2450	TT(1) = TGR(M+11)		MODT5550
2451	TT(2) = DC(3)		MODT5560
2452	IND = IND + 1		
2453	IF (IND) 9511,9511,9515		
2454	9511 IF (IP(35)) 9512,9512,9515		
2455	9512 WRITE(8,9513)		
2456	9513 FORMAT(1H,50X,50H** CTO (CALLED FROM MWDO - LOOP 250) - (P(35)		
2457	(**)		
2458	9515 CALL CTO:		
2459	TCS(M+207) = YC(8)		MODT5580
2460	TCS(M+208) = YC(4) - TT(1)*TAND(8) - CCLO(8)		MODT5590
2461	TCS(M+209) = D(2)*D(15)*COS(8)		MODT5600
2462	C		MODT5609
2463	C *CARD TYPE 11. ASSUME COL(1,2) ORD OF MT STALL*		MODT5610
2464	C *4/CARD*		MODT5611
2465	N = K+ND(4) - ND(3)		MODT5612
2466	IF (ND(2) - N) 251,251,250		MODT5620
2467	251 TCS(M+155) = TST(32)		MODT5630
2468	TCS(M+156) = TST(33)		MODT5640
2469	TCS(M+157) = TST(33)		MODT5650
2470	TCS(M+158) = TST(33) + D(11)		MODT5660
2471	TST(32) = TST(33)		MODT5670
2472	TST(33) = TST(33) + D(11)		MODT5680
2473	C		MODT5690
2474	C *LOOP NEXT STATION*		MODT5700
2475	250 CONTINUE		MODT5710
2476	C		MODT5711
2477	C ***CHECK BK PRINT***		MODT5712
2478	C **PRINT ON (P(34))**		MODT5713
2479	IF (IP(34)) 2500,2500,2502		
2480	2500 WRITE (8,2501)		MODT5715
2481	2501 FORMAT(1H,5X,70H***DATA GENERATION SUBR FOR FLUTTER OPTIMIZATION MODT571		
2482	1PWRUM--FINAL DATA ARRAYS***,BX,20H** MWDO - (P(34)) **/640 TCS)		
2483	C		
2484	00 8040 NI=1,250,5		

CARD NO	CONTENTS	
2485	K2 = N1 * ND(4)	
2486	WRITE (6,902)N1,(TCS(11),11=N1,K2,1)	
2487	9040 CONTINUE	
2488	C	
2489	902 FORMAT (1H 14,5C18.8)	
2490	903 FORMAT (8H0CCD 1)	
2491	C	
2492	WRITE (6,903)	
2493	DO 9030 N1=1,150,5	
2494	K2 = N1 * ND(4)	
2495	WRITE (6,902)N1,(CCDL(11),11=N1,K2,1)	
2496	9030 CONTINUE	
2497	C	MODT5719
2498	C	MODT5720
2499	C	*LAST CONTROL STATION DATA ON INDEX K. CARD TYPE 8 ONLY MODT5730
2500	C	*STATION WILL BE CONTROL STATION 12,13 OR 14* MODT5740
2501	C	*ADJUST DIV) AND BOUNDARY DATA FOR STATION K=11,12 OR 13*MODT5750
2502	C	MODT5760
2503	2502 H = K*ND(6)	MODT5770
2504	TCS(M+67) = B502 - TST(8)	MODT5780
2505	TCS(M+73) = DC(3)	MODT5790
2506	TCS(M+75) = DC(3)	MODT5800
2507	TCS(M+76) = TCS(M+70)*D(22)	MODT5810
2508	TCS(M+77) = TCS(M+71)*D(22)	MODT5820
2509	TST(9) = (B502 - T0(10))/(T0(11) - T0(10))	MODT5830
2510	TCS(M+72) = T0(206) + TST(9)*(T0(207) - T0(206))	MODT5840
2511	TCS(M+74) = T0(275) + TST(9)*(T0(276) - T0(275))	MODT5850
2512	CC(1K+2) = TM(867)	MODT5855
2513	CC(1K+17) = TM(870)	MODT5856
2514	C	MODT5860
2515	H = K*ND(4)	MODT5870
2516	TCS(M+194) = TCS(M+195)	MODT5880
2517	C	MODT5890
2518	C	MODT5900
2519	C	**PUNCH FLUTTER DATA.** MODT5910
2520	860 CALL PINTO	MODT5920
2521	C	MODT5930
2522	C	WFD9900
2523	C	***EXIT*** WFD9950
2524	400 RETURN	WFD9998
2525	END	WFD9999
2526	C*****	
2527	C	
2528	C	****SUBROUTINE TPINT*****
2529	C	***PARABOLIC CURVE FIT AND EVALUATION***
2530	C	
2531	C*****	
2532	C	
2533	SUBROUTINE TPINT(Y1,X1,Y0)	TPIND010
2534	C	***INTERPOLATION SUBR. THREE POINT FIT*** TPIND020
2535	C	*SIMILAR TO CO3P. USES TT=T(41)-435)* TPIND030
2536	C	TPIND031
2537	C	*Y1=ABSCISSAS, X1=COORDINATES, Y0=EVALUATION PT.* TPIND040
2538	C	*X0 LOCATED IN TT(2)* TPIND041
2539	C	TPIND050
2540	COMMON T	TPIND060
2541	C	TPIND070
2542	DIMENSION T(6220),D(2080),CD(2000),ND(100),DC(100),	TPIND060
2543	TT(24),	TPIND081
2544	BY(3),X(3)	TPIND089
2545	C	TPIND090
2546	EQUIVALENCE (D(1),T(2081)),(CD(1),T(4121)),(ND(1),T(6121)),	TPIND100
2547	(DC(1),D(1401)),(TT(1),T(4111)),	TPIND101
2548	B(1,ND(32))	TPIND109
2549	C	TPIND110
2550	C	**MOVE DATA** TPIND120
2551	C	**NORMALIZE X(1)** TPIND129
2552	100 DO 101 I=1,3	TPIND130
2553	TT(I+2) = Y(I)	TPIND140
2554	TT(I+5) = X(I)/1000000000.0	TPIND150
2555	101 CONTINUE	TPIND160

06/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	****	CONTENTS	****
2556		TT(1) = Y0	TPIN0170
2557	C		TPIN0180
2558	C	*FIT CURVE. CALC L,N,M*	TPIN0190
2559		TT(15) = TT(3) - TT(4)	TPIN0200
2560		TT(16) = TT(3) - TT(5)	TPIN0210
2561		TT(17) = TT(4) - TT(5)	TPIN0220
2562		TT(18) = TT(3) + TT(4)	TPIN0230
2563		TT(19) = TT(3) + TT(5)	TPIN0240
2564		TT(20) = TT(4) + TT(5)	TPIN0250
2565		TT(12) = TT(6)/(TT(15)+TT(16))	TPIN0260
2566		TT(13) = TT(7)/(TT(15)+TT(17))	TPIN0270
2567		TT(14) = TT(8)/(TT(16)+TT(17))	TPIN0280
2568	C		TPIN0290
2569	C	*PARABOLIC CONSTANTS A,B,C*	TPIN0300
2570	C	*A=L-M+N. B=M*(Y1+Y3)-L*(Y2+Y3)-N*(Y1+Y2)*	TPIN0310
2571	C	*C=X1 - (Y1*(A*Y1+B))*	TPIN0320
2572		TT(9) = TT(12) - TT(13) + TT(14)	TPIN0330
2573		TT(10) = TT(13)+TT(19) - TT(12)+TT(20) - TT(14)+TT(18)	TPIN0340
2574		TT(11) = TT(8) - TT(3)+(TT(9)+TT(13) + TT(10))	TPIN0350
2575	C		TPIN0360
2576	C	*EVALUATE CURVE FOR X(0) AT Y(0). TEST FOR BAD FIT*	TPIN0370
2577		TT(2) = TT(1)+(TT(1)+TT(9) + TT(10)) + TT(11)	TPIN0380
2578	C		TPIN0390
2579	C	*TEST (A) FOR TYPE OF CURVE. 0=OK.*	TPIN0400
2580	C	*(-A) = CONCAVE DOWN*	TPIN0410
2581	C	*(-A) = CONCAVE UP*	TPIN0420
2582		IF (TT(9)) 110,190,120	TPIN0430
2583	C		TPIN0440
2584	C	**LOCATE Y(0). ASSUME THAT X(3) LESS THAN X(2), AND	TPIN0450
2585	C	*X(2) ALWAYS LESS THAN X(1)***	TPIN0460
2586	C	*FOR Y(0) BETWEEN Y(1)-Y(2)**	TPIN0470
2587	C	*ASSUME X(0) LESS THAN X(1), GREATER THAN X(2)*	TPIN0480
2588	C	*FOR Y(0) BETWEEN Y(2)-Y(3)**	TPIN0490
2589	C	*ASSUME X(0) LESS THAN X(2), GREATER THAN X(3)*	TPIN0500
2590	C	**FOR X(0) NOT WITHIN RANGE, USE ST-LINE INTERPOLATION***	TPIN0510
2591	C		TPIN0520
2592		110 IF (TT(1) - TT(4)) 111,114,118	TPIN0530
2593	C		TPIN0540
2594	C	*BETWEEN Y(1)-Y(2)*	TPIN0550
2595		111 IF (TT(7) - TT(2)) 112,113,115	TPIN0560
2596		112 IF (TT(8) - TT(2)) 113,113,190	TPIN0570
2597		113 TT(2) = TT(6) + (TT(7) - TT(8))*(TT(1) - TT(3))/(TT(4) - TT(3))	TPIN0580
2598		GO TO 190	TPIN0590
2599	C		TPIN0600
2600	C	*AT Y(2). TEST WITH X(2)*	TPIN0610
2601		114 IF (TT(2) - TT(7)) 115,190,115	TPIN0620
2602		115 TT(2) = TT(7)	TPIN0630
2603		GO TO 190	TPIN0640
2604	C		TPIN0650
2605	C	*BETWEEN Y(2) - Y(3)*	TPIN0660
2606		116 IF (TT(8) - TT(2)) 117,118,118	TPIN0670
2607		117 IF (TT(7) - TT(2)) 118,118,190	TPIN0680
2608		118 TT(2) = TT(7) + (TT(8) - TT(7))*(TT(1) - TT(4))/(TT(5) - TT(4))	TPIN0690
2609		GO TO 190	TPIN0700
2610	C		TPIN0710
2611	C	**CONCAVE DOWN. X(2) MAY BE LESS OR GREATER THAN X(1)***	TPIN0720
2612	C	***IF GREATER, X(3) MAY BE LESS OR GREATER THAN X(2)***	TPIN0730
2613	C	**TEST FOR RELATIVE VALUE OF X(2),X(3) AND LOCATE Y(0)**	TPIN0740
2614	C	*FOR Y(0) BETWEEN Y(1)-Y(2)**	TPIN0750
2615	C	*ASSUME VALUE OF X(0) BETWEEN X(1)-X(2)**	TPIN0760
2616	C	*SAME FOR Y(0) BETWEEN Y(2) AND Y(3)**	TPIN0770
2617		120 IF (TT(1) - TT(4)) 121,114,124	TPIN0780
2618		121 IF (TT(8) - TT(7)) 122,114,112	TPIN0790
2619		122 IF (TT(2) - TT(7)) 123,113,113	TPIN0800
2620		123 IF (TT(2) - TT(8)) 113,113,190	TPIN0810
2621	C		TPIN0820
2622	C	*BETWEEN Y(2) AND Y(3)	TPIN0830
2623		124 IF (TT(7) - TT(8)) 125,114,117	TPIN0840
2624		125 IF (TT(2) - TT(8)) 126,118,118	TPIN0850
2625		126 IF (TT(2) - TT(7)) 118,118,190	TPIN0860
2626	C		TPIN0870

CARD NO	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
2627	C		TPIND900
2628	C	**UNNORMALIZE X(0)**	TPIND910
2629	190	TT(2) = TT(2)*100000000.0	TPIND920
2630	C		TPIND930
2631	C		TPIND990
2632	C	**EXIT**	TPIND991
2633	199	RETURN	TPIND998
2634		END	TPIND999
2635	C	*****	
2636	C		
2637	C	*****SUBROUTINE CTOT*****	
2638	C	***PLATFORM CHORD EVALUATION***	
2639	C		
2640	C	*****	
2641	C		
2642		SUBROUTINE CLOT	CTOT0010
2643	C	*****BASIC VERSION OF SUBROUTINE CTOT--OVERLAY (17,0)*****	CTOT0011
2644	C	***SAVE AS SUBR CTOT1 IN OVERLAY (14,0)***	CTOT0012
2645	C	***SAVE AS SUBR CTOT2 IN OVERLAY (15,0)***	CTOT0013
2646	C		CTOT0019
2647	C		CTOT0020
2648	C	**BLLENDED WING LE/TE INTERPOLATION SUBR(SIMILAR TO CAERO**	CTOT0030
2649	C	**INTERPOLATE FOR AERO CHORD AND T/C FOR GIVEN Y(A)**	CTOT0040
2650	C	**INTERPOLATE FOR STRUCTURAL CHORD DATA IF X(A) GIVEN*	CTOT0050
2651	C		CTOT0060
2652		COMMON T	CTOT0070
2653		COMMON /IPRINT/ IP(80)	CTOT0071
2654	C		CTOT0078
2655		DIMENSION T(8220),D(2060),CD(2000),ND(100),DC(100),	CTOT0080
2656		1YC(150),TT(24),YTC(80),	CTOT0081
2657		STAND(8),CCLO(8),SIND(8),COSO(8)	CTOT0088
2658	C		CTOT0090
2659		EQUIVALENCE (D(1),T(2081)),(CD(1),T(4121)),(ND(1),T(8121)),	CTOT0100
2660		1YC(1),T(2011)),(TT(1),T(4111)),(DC(1),D(1401)),(YTC(1),T(3511)),	CTOT0101
2661		2(TAND(1),T(122)),(CCLO(1),T(131)),(SIND(1),T(148)),	CTOT0102
2662		3(COSO(1),T(146)),	CTOT0103
2663		9(COTEA,T(152))	CTOT0109
2664	C		CTOT0110
2665	C	Y(1)=TT(1), X(1)=TT(2)	CTOT0120
2666	C	***CALC AERO DATA AT Y(1)***	CTOT0130
2667	100	DO 101 I=1,5	CTOT0140
2668		YC(I+1) = TT(1)*TAND(I) + CCLO(I)	CTOT0150
2669	101	CONTINUE	CTOT0160
2670	C		CTOT0170
2671	C	**INTERPOLATE FOR LE**	CTOT0180
2672	110	I = ND(1)	CTOT0190
2673	111	IF (YC(I+4) - TT(1)) 112,113,113	CTOT0200
2674	112	I = I + ND(1)	CTOT0210
2675		IF (ND(1) - 1) 113,113,111	CTOT0220
2676	113	YC(1) = TT(1)*YC(I+84) + YC(I+75)	CTOT0230
2677	C		CTOT0240
2678	C	**INTERPOLATE FOR TE**	CTOT0250
2679	120	I = ND(1)	CTOT0260
2680	121	IF (YC(I+87) - TT(1)) 122,123,123	CTOT0270
2681	122	I = I + ND(1)	CTOT0280
2682		IF (ND(1) - 1) 123,123,121	CTOT0290
2683	123	YC(7) = TT(1)*YC(I+110) + YC(I+121)	CTOT0300
2684	C		CTOT0310
2685	C	**AERO CHORDS*	CTOT0320
2686	130	YC(8) = YC(7) - YC(1)	CTOT0330
2687		YC(9) = YC(8) - YC(2)	CTOT0340
2688		YC(10) = YC(9) - YC(3)	CTOT0350
2689	C		CTOT0351
2690	C	***INTERPOLATE FOR DMAX AT Y, CALC. T/C = DMAX/C(TOTAL)***	CTOT0352
2691	131	I = ND(1)	CTOT0353
2692	132	IF (YTC(I+1) - TT(1)) 133,134,134	CTOT0354
2693	133	I = I + ND(1)	CTOT0355
2694		IF (ND(1) - 1) 134,134,132	CTOT0356
2695	134	YC(30) = TT(1)*YTC(I+24) + YTC(I+35)	CTOT0357
2696		YC(31) = YC(30)/YC(8)	CTOT0358
2697	C		CTOT0360

CARD NO	CONTENTS	
2698	C ***TEST FOR STRUCTURAL. X(1) NOT ZERO***	CTOT0370
2699	136 IF (TT(2)) 137,170,137	CTOT0380
2700	137 IF (TAND(3)) 140,138,140	CTOT0390
2701	138 DO 139 I=1,7	CTOT0400
2702	YC(1+10) = TT(1)	CTOT0410
2703	YC(1+17) = YC(1)	CTOT0420
2704	139 CONTINUE	CTOT0430
2705	GO TO 160	CTOT0440
2706	C	CTOT0450
2707	140 YC(20) = TT(2) - COTEA*TT(1)	CTOT0470
2708	DO 141 I=1,5	CTOT0475
2709	YC(20) = COTEA - TA*(1)	CTOT0480
2710	YC(1+11) = (CCLO(1) - YC(20))/YC(20)	CTOT0490
2711	YC(1+18) = YC(1+11)*TAND(1) + CCLO(1)	CTOT0500
2712	141 CONTINUE	CTOT0510
2713	C	CTOT0520
2714	C ***LE INTERPOLATION.**	CTOT0530
2715	I = ND(1)	CTOT0540
2716	142 YC(29) = COTEA - YC(1+64)	CTOT0550
2717	IF (YC(29)) 145,143,145	CTOT0560
2718	143 IF (ND(11) - I) 144,145,144	CTOT0570
2719	144 I = ND(1)	CTOT0580
2720	GO TO 144	CTOT0590
2721	1440 I = I + ND(1)	CTOT0590
2722	1441 YC(29) = COTEA - YC(1+64)	CTOT0595
2723	145 YC(11) = (YC(1+75) - YC(29))/YC(29)	CTOT0600
2724	IF (YC(1+41) - YC(11)) 146,148,148	CTOT0610
2725	146 IF (I - ND(11)) 147,148,148	CTOT0620
2726	147 I = I+ND(1)	CTOT0630
2727	GO TO 142	CTOT0640
2728	148 YC(18) = YC(11)*YC(1+64) + YC(1+75)	CTOT0650
2729	C	CTOT0660
2730	C ***TE INTERPOLATION**	CTOT0670
2731	150 I = ND(1)	CTOT0680
2732	151 YC(29) = COTEA - YC(1+110)	CTOT0690
2733	IF (YC(29)) 154,152,154	CTOT0700
2734	152 IF (ND(11) - I) 153,154,153	CTOT0710
2735	153 I = ND(1)	CTOT0720
2736	GO TO 153	CTOT0725
2737	1530 I = I + ND(1)	CTOT0730
2738	1531 YC(29) = COTEA - YC(1+110)	CTOT0735
2739	154 YC(17) = (YC(1+121) - YC(29))/YC(29)	CTOT0740
2740	IF (YC(1+87) - YC(17)) 155,157,157	CTOT0750
2741	155 IF (I - ND(11)) 156,157,157	CTOT0760
2742	156 I = I+ND(1)	CTOT0770
2743	GO TO 151	CTOT0780
2744	157 YC(24) = YC(17)*YC(1+110) + YC(1+121)	CTOT0790
2745	C	CTOT0800
2746	C *CALC CHORDS*	CTOT0810
2747	160 YC(25) = (YC(24)-YC(18))/COS(13)	CTOT0820
2748	YC(26) = (YC(23)-YC(18))/COS(13)	CTOT0830
2749	YC(27) = (YC(22)-YC(20))/COS(13)	CTOT0840
2750	C	CTOT0850
2751	C	CTOT0860
2752	C ***TEST FOR BK PRINT***	CTOT0870
2753	170 IF (IP(35)) 171,171,199	CTOT0880
2754	171 WRITE (6,172)TT(1),TT(2)	CTOT0890
2755	C	CTOT0900
2756	172 FORMAT(1H0,20X,7MTT(1) =,F8.3,5X,7MTT(2) =,F8.3/6H YC)	
2757	172 FORMAT (20H0 ***CTOT SUBR--IP=33*** ,//3X,2F12.3,/6H0 YC)	CTOT0910
2758	C	CTOT0920
2759	C	CTOT0930
2760	902 FORMAT (1H 14,5E10.0)	CTOT0930
2761	C	CTOT0940
2762	DO 9040 NI=1,25,5	CTOT0950
2763	K2 = NI + ND(4)	CTOT0960
2764	WRITE (6,902)NI, (YC(11), (I-NI),K2,1)	CTOT0970
2765	9040 CONTINUE	CTOT0980
2766	C	CTOT0990
2767	C ***EXIT****	CTOT1000
2768	199 RETURN	CTOT1000

05/10/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODEL -
CARD NO	CONTENTS		
2769	END		CTOT1999
2770	C		
2771	C		
2772	C	****SUBROUTINE PINTO****	
2773	C	***MASS/DESIGN DATA PUNCH/PRINT FOR FLUT. OPT. PROGRAM***	
2774	C		
2775	C		
2776	C		
2777	C	SUBROUTINE PINTO	PINT0010
2778	C		PINT0020
2779	C	***INERTIA DATA PUNCH ROUTINE***	PINT0030
2780	C	*FLUTTER OPTIMIZATION MASS PROPERTIES DATA*	PINT0040
2781	C	*01-31-75--NEW ROUTINE*	PINT0050
2782	C		PINT0060
2783	C	COMMON T	PINT0070
2784	C		PINT0080
2785	C	DIMENSION T(622),D(2060),CD(2060),ND(100),DC(100),	PINT0090
2786	C	ICCOL(1150),TOR(100),	PINT0091
2787	C	SCC(100),	PINT0092
2788	C	STCS(250)	PINT0093
2789	C		PINT0100
2790	C	EQUIVALENCE(D(1),T(206)),(CD(1),T(412)),(ND(1),T(612)),	PINT0110
2791	C	(DC(1),D(140)),(TCS(1),CD(140)),	PINT0111
2792	C	2(ICCOL(1),CD(50)),(TOR(1),T(175)),	PINT0112
2793	C	3(SCC(1),CD(100)),	PINT0113
2794	C	4(DINTP,D(200)),	PINT0114
2795	C	5(ND(30)),(1,ND(20)),(K,ND(1)),INCASE,ND(60)	PINT0119
2796	C		PINT0120
2797	C		PINT0540
2798	C		PINT0560
2799	C	**PUNCH ID = DINTP 0-NO 1-PUNCH DATA**	
2800	C		PINT5000
2801	C	**FLUTTER OPTIMIZATION DATA**	PINT5010
2802	C	**PUNCH CARD TYPES 2,4,5,6,7,8,11,12 FOR FORMAT HEAD**	PINT5020
2803	C	*SEQ COL 73-2 FOR SHEEP 11, COL 74-2=CASE NO.*	PINT5030
2804	C	*COL 77-78-CARD TYPE, COL 79-80-CARD SEQ NO.*	PINT5040
2805	C		PINT5050
2806	C	200 WRITE 16,201INCASE	PINT5060
2807	C	201 FORMAT (12H) CASE NO.13,62H **FLUTTER OPTIMIZATION DATA.	PINT5070
2808	C	11ND. CARD IMAGE DATA***,22X,11H** PINTO **//)	
2809	C		PINT5080
2810	C	*CARD TYPE 2*	PINT5090
2811	C	202 FORMAT (5X12.5,12X,11,13,12,12)	PINT5100
2812	C	2020 FORMAT (3X,9E16.0,16X,11,13,12,12)	PINT5110
2813	C		PINT5119
2814	C	*CARD TYPE 4*	PINT5120
2815	C	204 FORMAT (12X,3E12.5,24X,11,13,12,12)	PINT5130
2816	C	2040 FORMAT (18X,3E16.0,32X,11,13,12,12)	PINT5140
2817	C		PINT5149
2818	C	*CARD TYPE 5*	PINT5150
2819	C	205 FORMAT (8E12.5,40X,11,13,12,12)	PINT5160
2820	C	2050 FORMAT (3X,2E16.0,84X,11,13,12,12)	PINT5170
2821	C		PINT5179
2822	C	*CARD TYPE 6*	PINT5180
2823	C	206 FORMAT (9E12.5,12X,11,13,12,12)	PINT5190
2824	C	2060 FORMAT (3X,9E16.0,16X,11,13,12,12)	PINT5200
2825	C		PINT5209
2826	C	*CARD TYPE 7-1,7-2*	PINT5210
2827	C	2071 FORMAT (11E12.5,11,13,12,12)	PINT5220
2828	C	2072 FORMAT (4E12.5,24X,11,13,12,12)	PINT5230
2829	C	2073 FORMAT (3X,11E16.0,11,13,12,12)	PINT5240
2830	C	2074 FORMAT (3X,16X,4E16.0,16X,11,13,12,12)	PINT5250
2831	C		PINT5259
2832	C	*CARD TYPE 8*	PINT5260
2833	C	208 FORMAT (4E12.5,2,4E12.5,11,13,12,12)	PINT5270
2834	C	2080 FORMAT (3X,4E16.0,2,4E16.0,11,13,12,12)	PINT5280
2835	C		PINT5289
2836	C	*CARD TYPE 11*	PINT5290
2837	C	211 FORMAT (41E12.5,11,13,12,12)	PINT5300
2838	C	2110 FORMAT (3X,41E16.0,11,13,12,12)	PINT5310
2839	C		PINT5319

CARD NO	CONTENTS	
2040	C *CARD TYPE 12*	PINT5320
2041	212 FORMAT (3E12.5,3E11.13,12,12)	PINT5330
2042	2120 FORMAT (3X,3E10.8,4E11.13,12,12)	PINT5340
2043	C	PINT5350
2044	C *K-CARD COUNTER. K=2 FOR SHEEP 11. L-CARD TYPE*	PINT5360
2045	C *M = CONTROL STATION 10 = NO. - 2*	PINT5361
2046	C *USE FOR CARD TYPES 6,11,12 AND M=2 FOR TYPE 8*	PINT5362
2047	C **TEST FOR PUNCHED DATA**	
2048	C	
2049	N = NO(1)	PINT5370
2050	K = NO(2)	PINT5380
2051	L = NO(2)	PINT5390
2052	WRITE(6,2020)(CCOL(11+113),1=1,5),K,NCASE,L,M	PINT5400
2053	IF(DINTP)2122,2122,2121	
2054	2121 PUNCH 202,(CCOL(11+113),1=1,5),K,NCASE,L,M	PINT5410
2055	C	PINT5419
2056	C *TYPE 4*	PINT5420
2057	2122 L = NO(4)	PINT5430
2058	N = NO(2)	PINT5440
2059	WRITE(6,2040)(CCOL(11+110),1=1,3),K,NCASE,L,M	PINT5450
2060	IF(DINTP)2124,2124,2123	
2061	2123 PUNCH 204,(CCOL(11+110),1=1,3),K,NCASE,L,M	PINT5460
2062	C	PINT5470
2063	C *TYPE 5*	PINT5480
2064	2124 L = NO(5)	PINT5490
2065	N = NO(3)	PINT5500
2066	WRITE(6,2050)(CCOL(1122),CCOL(1123),K,NCASE,L,M	PINT5510
2067	IF(DINTP)2126,2126,2125	
2068	2125 PUNCH 205,CCOL(1122),CCOL(1123),K,NCASE,L,M	PINT5520
2069	C	PINT5530
2070	C *TYPE 6. 11,12 OR 13 CARDS REQD*	PINT5540
2071	C **CCOL(1124,137) = ADD MASS MT.***	PINT5541
2072	C *IF NOT 8, CHECK TOR(99,100) FOR STATION NO. (-1)=SKIP*	PINT5542
2073	2126 L = NO(6)	PINT5550
2074	N = NO(11)	PINT5560
2075	IF (CCOL(1124)) 221,221,220	PINT5570
2076	220 IF (TOR(99)) 221,221,2200	PINT5580
2077	2200 M = M + NO(1)	PINT5585
2078	221 IF (CCOL(1137)) 223,223,222	PINT5590
2079	222 IF (TOR(100)) 223,223,2220	PINT5600
2080	2220 M = M + NO(1)	PINT5605
2081	223 DO 224 J=1,M	PINT5610
2082	N = N + NO(1)	PINT5620
2083	JE = J+NO(5)	PINT5630
2084	J1 = JE - NO(4)	PINT5640
2085	WRITE(6,2060)(TCS(1),1=J1,JE),K,NCASE,L,M	PINT5650
2086	IF(DINTP)224,224,2239	
2087	2230 PUNCH 206,(TCS(1),1=J1,JE),K,NCASE,L,M	PINT5660
2088	224 CONTINUE	PINT5670
2089	C	PINT5680
2090	C *CARD TYPE 7-1,7-2. TEST FOR COL(1,2)*	PINT5690
2091	L = NO(7)	PINT5700
2092	IF (CCOL(1124)) 226,226,225	PINT5710
2093	225 IF (TOR(99)) 226,226,2250	PINT5720
2094	2250 M = M + NO(1)	PINT5725
2095	MC = ABS(TOR(99))	PINT5730
2096	WRITE(6,2073)MC,(CCOL(11+127),1=1,5),K,NCASE,L,M	PINT5740
2097	IF(DINTP)2252,2252,2251	
2098	2251 PUNCH 2071,MC,(CCOL(11+127),1=1,5),K,NCASE,L,M	PINT5750
2099	2252 M = M + NO(1)	PINT5760
2100	WRITE(6,2074)(CCOL(11+132),1=1,4),K,NCASE,L,M	PINT5770
2101	IF(DINTP)226,226,2253	
2102	2253 PUNCH 2072,(CCOL(11+132),1=1,4),K,NCASE,L,M	PINT5780
2103	C	PINT5790
2104	C *COL NO 11*	PINT5800
2105	226 IF (CCOL(1137)) 228,228,227	PINT5810
2106	227 IF (TOR(100)) 228,228,2270	PINT5820
2107	2270 M = M + NO(1)	PINT5825
2108	MC = ABS(TOR(100))	PINT5830
2109	WRITE(6,2073)MC,(CCOL(11+140),1=1,5),K,NCASE,L,M	PINT5840
2110	IF(DINTP)2272,2272,2271	

08/18/74	INPUT LISTING	AUTOFLOW CHART SET - SHEEP	WING AND EMPENNAGE MODULE -
CARD NO	*****	CONTENTS	*****
2011	2271 PUNCH 2071, (CCOL(11)+140), 1=1, 5), K, NCASE, L, N		PINT5090
2012	2272 N = N + ND(1)		PINT5090
2013	WRITE (6, 2074) (CCOL(11)+145), 1=1, 4), K, NCASE, L, N		PINT5090
2014	IF (DINTP) 220, 220, 2273		
2015	2273 PUNCH 2072, (CCOL(11)+145), 1=1, 4), K, NCASE, L, N		PINT5090
2016	C		PINT5090
2017	C **CARD TYPE B**		PINT5090
2018	C **PUNCH N-2 NO OF CARDS**		PINT5090
2019	220 M1 = M + ND(2)		PINT5090
2020	L = ND(8)		PINT5090
2021	DO 229 J=1, M1		PINT5090
2022	N = N + ND(1)		PINT5090
2023	JE = J + ND(6) + 65		PINT5090
2024	J1 = JE - ND(5)		PINT5090
2025	WRITE (6, 2080) (TCS(1), 1=J1, JE), CC(1, J1), CC(1, J+15), K, NCASE, L, N		PINT5090
2026	IF (DINTP) 229, 229, 2280		
2027	2280 PUNCH 208, (TCS(1), 1=J1, JE), CC(1, J1), CC(1, J+15), K, NCASE, L, N		PINT5090
2028	229 CONTINUE		PINT6000
2029	C		PINT6010
2030	C **CARD TYPE 11. N NO OF CARDS**		PINT6020
2031	C **FIXED POINT BOUNDARY DATA. 4/CARD**		PINT6030
2032	L = ND(11)		PINT6040
2033	DO 231 J=1, M		PINT6050
2034	N = N + ND(1)		PINT6060
2035	J1 = J + ND(4) - ND(4)		PINT6070
2036	DO 230 I=1, 4		PINT6080
2037	JE = J1 + I		PINT6090
2038	ND(1+22) = TCS(JE+195)		PINT6100
2039	230 CONTINUE		PINT6110
2040	WRITE (6, 2110) (ND(1+22), 1=1, 4), K, NCASE, L, N		PINT6120
2041	IF (DINTP) 231, 231, 2300		
2042	2300 PUNCH 211, (ND(1+22), 1=1, 4), K, NCASE, L, N		PINT6130
2043	231 CONTINUE		PINT6140
2044	C		PINT6150
2045	C **CARD TYPE 12. N NO OF CARDS, 3/CARD**		PINT6160
2046	L = ND(12)		PINT6170
2047	DO 232 J=1, M		PINT6180
2048	N = N + ND(1)		PINT6190
2049	JE = J + ND(3) + 207		PINT6200
2050	J1 = JE - ND(2)		PINT6210
2051	WRITE (6, 2120) (TCS(1), 1=J1, JE), K, NCASE, L, N		PINT6220
2052	IF (DINTP) 232, 232, 2311		
2053	2311 PUNCH 212, (TCS(1), 1=J1, JE), K, NCASE, L, N		PINT6230
2054	232 CONTINUE		PINT6240
2055	C		PINT6250
2056	C **EXIT FLUTTER OPT. DATA PUNCH**		PINT6260
2057	C		PINT6270
2058	C		PINT6280
2059	C ***EXIT***		PINT6290
2060	200 RETURN		PINT6300
2061	END		PINT6300